

***SITE INSPECTION REASSESSMENT***

***Final Report***

**White Park CERCLIS Site**

**Morgantown, Monongalia County, West Virginia**

**CERCLIS (WVD98766168)**

Submitted to:

**West Virginia Department of Environmental Protection**

**Office of Environmental Remediation**

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TRANSMITTAL LETTER  
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## ACRONYM GLOSSARY

AOC	Area of Concern
AOPC	Area of Potential Concern
AST	Above Ground Storage Tank
Bgs	Below ground surface
BoPARC	Board of Parks and Recreation Commissioners
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CLP	Contract Laboratory Program
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
CRDL	Contract Required Detection Limit
DQO	Data Quality Objective
DWM	Division of Waste Management
EDR	Environmental Data Resources, Inc.
FSP	Field Sampling Plan
HASP	Health and Safety Plan
HRS	Hazard Ranking System
MS/DUP	Inorganic Matrix Spike/Matrix Duplicate
msl	mean seal level
NOV	Notice of Violation
OER	Office of Environmental Remediation
OWM	Office of Waste Management
PA	Preliminary Assessment
PAH	Polynuclear Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
POLREP	Pollution Report
RBC	Risk-Based Concentration

## ACRONYM GLOSSARY, Continued

PRP	Potentially Responsible Party
QAPP	Quality Assurance Project Plan
QC	Quality Control
RAS	Routine Analytical Services
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SATA	Site Assessment Technical Assistance
SDWIS	Safe Drinking Water Information System
SIR	Site Inspection Reassessment
SOW	Statement of Work
TAL	Target Analyte List
TCLP	Toxicity Characteristics Leaching Procedure
TDL	Target distance limit
TRIAD	TRIAD ENGINEERING, INC.
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WMS	Waste Management Section
WVDEP	West Virginia Department of Environmental Protection
WVDNR	West Virginia Department of Natural Resources
WVGIS	West Virginia Geographic Information System

## 1.0 INTRODUCTION

TRIAD ENGINEERING, INC. (TRIAD) has prepared this *Site Inspection Reassessment Final Report* for the United States Environmental Protection Agency, Region III (USEPA) and the West Virginia Department of Environmental Protection (WVDEP), Office of Environmental Remediation (OER). This report has been prepared under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) under a Pre-Remedial Cooperative Agreement between the USEPA and the WVDEP.

The White Park CERCLIS Site (the Site) has the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) site designation WVD98766168. The Site's current CERCLA status is "active" and the Site is not listed on the National Priorities List (NPL).

The Site was listed on CERCLIS in August 1988 following an inspection and preliminary sampling investigation conducted by the West Virginia Department of Natural Resources, Waste Management Section (WVDNR, WMS). The inspection was initiated by a report from a private citizen concerning tar-like deposits observed in an area remaining from a former crude oil above ground storage tank (AST) farm. During the inspection, a tar-like substance with a petroleum odor was observed in a former dike area near the South Middle School, and additional tar-like deposits were observed along a small tributary stream that flows into the Cobun Creek Reservoir. The Cobun Creek Reservoir serves as a secondary source of drinking water to the City of Morgantown, West Virginia.

A Preliminary Assessment (PA) was performed in March 1989 by WVDNR, WMS. A preliminary Hazard Ranking System (HRS) site score of 35.20 was calculated for the Site and a CERCLA site investigation was recommended. In April 1989, WVDNR WMS Site Investigation and Response (SIR) personnel inspected the Site and a second HRS site score of 36.87 was calculated. In 1998, reclamation work was

completed by the Eureka Pipe Line Company at three dike areas with exposed hydrocarbon residues. These activities were not considered in the previously generated HRS site scores. Subsequently, the WVDEP, OER determined further assessment was warranted to determine potential risk associated with the Site and if the Site should undergo further investigation under CERCLA.

As part of a 2003 Site Reassessment, an HRS Site Score of 0.0 was calculated for the Site. This score was considered to be underestimated due to data gaps, such as lack of groundwater quality data and subsurface soil data as well as current surface water quality data from the Cobun Creek Reservoir. The HRS Site Score was presumed to be low due to limited information on the extent of contamination and the number of individuals exposed.

Therefore, the USEPA and WVDEP, OER determined that a Site Inspection Reassessment (SIR) was warranted to assess potential risk associated with the Site and determine if the Site should undergo further action under CERCLA. This *SIR Final Report* has been prepared under Tasks 3 of the approved Work Plan, WVDEP, OER Contract DEP14650.

Prior to preparing this *SIR Final Report*, TRIAD performed various work tasks relative to the White Park CERCLIS Site, including preparing a *Sampling and Analysis Plan (SAP)* for the USEPA and WVDEP, OER, which included:

- a *Field Sampling Plan (FSP)*,
- a *Quality Assurance Project Plan (QAPP)*,
- and a *Health and Safety Plan (HASP)* , which was submitted on July 2009 under contract number DEP14650.

## 2.0 SITE DESCRIPTION AND HISTORY

### 2.1 Site Location

The White Park CERCLIS Site is located in the southwestern portion of Morgantown, Monongalia County, West Virginia. The Site, as initially investigated by CERCLIS, consisted of only the 170-acre municipal park known as White Park. White Park lies at the northern end of an approximately 700-acre area that was operated as a crude oil tank farm from the late 1800's to the 1950's. The location of the Site is depicted on the 1976 *Morgantown South, W.VA.* United States Geological Survey (USGS) 7.5-minute quadrangle map in **Figure 1, Site Location Topographic Map**, which outlines the extent of both White Park and the former tank farm (the Site). Coordinates for the Site are 39°36'43" north latitude and 79°57'30" west longitude, which represent a location at the White Park ice rink.

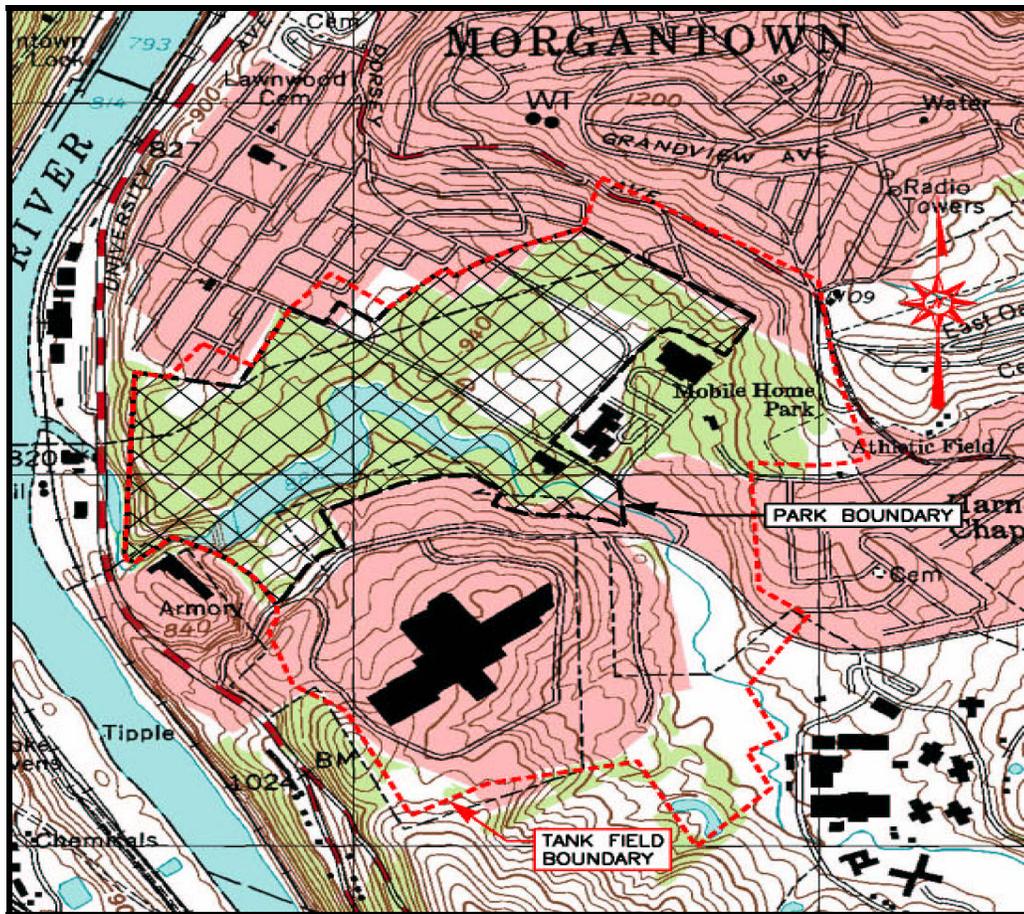


Figure 1, Site Location Topographic Map

The Site is accessible by traveling south on US Route 119 (Don Knotts Boulevard), turning west (left) onto Green Bag Road, and traveling approximately one mile and turning north (left) onto Mississippi Street. The Site, as it is defined now, is approximately 700 acres in size and its location is depicted below as **Figure 2, Site Location Road Map**.



**Figure 2, Site Location Road Map**

## 2.2 Site Description

Prior to its commercial, recreational, and residential development, the Site was part of an area occupied by a crude oil tank farm operated by Standard Oil and its subsidiary, the Eureka Pipe Line Company. The Site was utilized as a tank farm from as early as the late 1800's until the early 1960's.

The Site is currently mixed use development including residential homes, roads, shopping centers, and innumerable commercial entities, as well as a 170-acre municipal park, known as White Park, which is operated by the City of Morgantown Board of Park and Recreation Commissioners (BOPARC).

Recreational facilities at the park include four adult softball fields, two youth baseball fields, five miles of hiking trails, playground, picnic area, ice skating rink, green/open space, and restrooms. Currently, most developed park facilities, including baseball/softball fields, playground, ice rink, picnic shelter, and restrooms are within or immediately proximate to an area bounded by Mississippi Street on the south, Hite Street on the north, and East Parkway Drive on the east. The remainder of the Site is occupied by woodland and the approximately 17-acre Cobun Creek Reservoir, with very limited grassy clearings. Several gravel hiking trails are present in the wooded areas on the north side of the Cobun Creek Reservoir. A gas pipeline transects the northern portion of White Park from southwest to northeast, with one of the hiking trails following the gas line from Mississippi Street to the northern park boundary.

Please refer to **Figure 3, General Site Features**, for locations of current structures and former ASTs.

## 2.3 Uses of Adjoining Properties

Current land uses of the properties that are immediately adjacent to the Site are as follows:

<b>Direction</b>	<b>Boundary Feature</b>	<b>Topographic Relation</b>	<b>Environmental Concerns</b>
<b>North</b>	The Site is bound to the north by residential property.	Down Gradient	No
<b>East</b>	The Site is bound to the east residential properties, light commercial, and pasture.	Up Gradient	No
<b>South</b>	The Site is bound to the south by Don Knotts Blvd. and industrial property beyond that.	Down Gradient	No
<b>West</b>	The Site is bound to the west by Don Knotts Blvd. and the Monongahela River beyond that.	Down Gradient	No

## **2.4 Historical Inspections and Removals**

The Site was listed on CERCLIS in August 1988 following an inspection and preliminary sampling investigation conducted by the WVDNR, WMS. The inspection was initiated by a report from a private citizen concerning tar-like deposits observed in an area remaining from a former crude oil AST.

### **2.4.1 Initial 1987 Site Visit**

According to records available for review in the WVDEP, OER and USEPA project files, at least four site visits were conducted. The first inspection was performed on October 14, 1987 by WVDNR, WMS in response to a report of tar-like pits in diked areas near the school by a private citizen. During the inspection, a tar-like substance with a petroleum odor was observed in a former dike area near the South Middle School, and additional tar-like deposits were observed along a small tributary stream that flows into the Cobun Creek Reservoir. Additional tar deposits were observed along an unnamed tributary flowing into the reservoir during this visit. Samples collected included the tar material, three sediment sample locations, and one

surface water location in the reservoir. According to the report, priority pollutants and heavy metals were selected as parameters. Limited analytical data were attached to the report. The tar sample was found to contain 43 microgram per kilogram (ug/kg) of ethylbenzene; 17 ug/kg of meta and para-xylene; 31 ug/kg of ortho-xylene; and 1,400 ug/kg of phenanthrene. The sediment samples were found to contain 29 - 41 ug/kg of naphthalene; 21 - 59 ug/kg of 2-methyl naphthalene; 120 - 340 ug/kg of phenanthrene; 81 - 600 ug/kg of fluoranthene; and 110 - 590 ug/kg of pyrene. Analytical results of the heavy metals that may have been detected in the tar or sediment samples as well as the surface water sample data were unavailable for review.

A brief memo was prepared documenting the results of a site visit by WVDNR, WMS on July 25, 1988. An exposed area of tar deposits with a petroleum odor approximately 15 feet long by five inches was observed along the bank of a stream flowing into the reservoir. The stream in question appears to be the unnamed tributary located immediately west of the softball fields that flows southward and enters the reservoir near the ice rink parking area. Organic Vapor Analyzer (OVA) readings at this location were reported to be 300 meter units. The report also stated that "six to seven of these areas are present" but did not give additional details. A USEPA Potential Hazardous Waste Site Preliminary Assessment form prepared for submission was attached to the memo, listing heavy metals, phenols, and other petroleum constituents as possible substances, and migration to the reservoir as the potential hazard. A medium priority for inspection was assigned.

#### **2.4.2 1988 TAT Site Visit**

On September 14, 1988 the Weston Technical Assistance Team for Emergency Response Removal and Prevention (TAT), under contract to USEPA, visited the Site. A dike area containing approximately 5,000 square feet of soft oily material of unknown depth was observed near the ice rink

parking lot. OVA readings did not exceed background when the material was undisturbed, but elevated readings were obtained after disturbing the material. Visible oil sheen was observed on the surface of the reservoir near the northwest corner. A sample collected at the tar pit near the ice rink was found to contain 3.7 milligram per kilogram (mg/kg) of chloroform and 294.0 mg/kg of acetone. A sample collected further to the north along the unnamed tributary contained 251.0 mg/kg of 2-butanone. These analytical results were considered suspect as chloroform and ketones are common laboratory contaminants; however, the United States government reportedly stored “alcohols” in two ASTs during World War II under lease to the Eureka Pipeline Company (source: Letter from Patrick A. Henry, President of Eureka Pipeline Company to the WVDNR, Feb 27, 1989). The location of the leased ASTs was not identified. The report indicates that several water samples were taken at the reservoir and tributaries, but no analytical data were attached for review. The report states that “although a visible sheen was observed on the reservoir..., no contaminants were found in the samples collected.” Recommendations included removal or restriction of access to the pit area near the ice rink, and restoration of the dike walls to prevent the migration of the material to the reservoir.

#### **2.4.3 1989 Preliminary Assessment**

A preliminary assessment report was prepared for White Park in March 1989 by WVDNR, WMS, Site Investigation and Response Section. The report was based on the data collected during the 1987 and 1988 investigations. HRS scoring sheets attached to this report listed a score of 35.20, and a high priority CERCLA site investigation was recommended due to the proximity of a municipal water supply.

#### **2.4.4 1991 Site Visit Summary Report**

A *Site Visit Summary Report, White Park* was prepared on May 4, 1989 by WVDNR, WMS. The report documented a field trip to the Site on April 25, 1989, during which five water and five sediment samples were collected for volatiles, base neutral compounds, and total metals. The *Site Investigation Report for White Park, Morgantown, Monongalia County, West Virginia* was prepared by WVDNR, WMS SIR in January 1991, and was based on the data obtained during the April 1989 investigation. The report documented known tar pit areas and a “tar ledge” along the unnamed tributary that flows into Cobun Creek Reservoir near the ice rink parking lot. The report concluded that on-site surface water and sediment samples exhibited non-carcinogenic organic and inorganic compounds. These concentrations were considered insufficient to pose a health threat to persons receiving chronic oral exposures, and it was stated that the migration of these contaminants to the reservoir would not pose a chronic health hazard to persons using the reservoir as a water supply. Known or potential carcinogens 1,4-dichlorobenzene, bis(2-ethyl hexyl) phthalate, chromium, arsenic, and lead were also detected in several on-site surface water and sediment samples. 1,4-Dichlorobenzene and bis(2-ethyl hexyl) phthalate concentrations were considered insufficient to present an increased cancer risk in excess of  $1 \times 10^{-6}$ . One water sample that contained 5.4 microgram per liter (ug/l) of arsenic, 7.7 ug/l of chromium, and 46.9 ug/l of lead was considered potentially biased because it was an unfiltered grab sample containing suspended sediment particles.

#### **2.4.5 1991 USEPA Memo**

A USEPA memo in March 1991 recommended further investigation to evaluate risk to Site recreational users from any remaining on-site residual contamination, and cites the lack of a groundwater study at the Site. A

second HRS score completed in December 1990 is attached to this memo, with a calculated HRS score of 36.87.

#### **2.4.6 1998 Reclamation**

In 1998, reclamation work was completed by the Eureka Pipe Line Company at three dike areas with exposed hydrocarbon residues. Residues in the pit areas were solidified by mixing agricultural lime float with the hydrocarbon materials using heavy equipment. This process ultimately resulted in material with a clay-like consistency in the pit areas. The material was then covered with clean soil and seeded.

#### **2.4.7 2003 Executive Summary Report (Site Reassessment)**

The WVDEP, OER determined further assessment was warranted to determine potential risk associated with the Site and if the Site should undergo further investigation under CERCLA. As part of a 2003 Executive Summary, an HRS Site Score of 0.0 was calculated for the Site. This score could be underestimated due to data gaps, such as lack of groundwater quality data and subsurface soil data as well as current surface water quality data from the Cobun Creek Reservoir. The HRS Site Score could also be low due to limited information on the extent of contamination and the number of individuals exposed. Therefore, the USEPA and WVDEP, OER determined that an SIR was warranted to assess potential risk associated with the Site and determine if the Site should undergo further action under CERCLA.

### **2.5 Areas of Potential Environmental Concern**

Based on the investigations performed to date and operational knowledge of the Site, Areas of Potential Concern (AOPC) include 76 former bulk storage AST locations situated on the former 700 acre tank farm owned and operated by the Eureka Pipeline Company (a subsidiary of Standard Oil).

Due to budgetary constraints, a phased approach to the investigation was approved by Pam Hayes, WVDEP, and James Hargett, USEPA. This report addresses Phase I, which includes the thirteen existing tank dike locations in the vicinity of Cobun Creek Reservoir. These locations were prioritized as they are most likely to impact the public drinking water supply of the City of Morgantown, West Virginia.

## **2.6 Contaminants of Concern**

Based on previous investigations performed at the Site and current knowledge of historical activities, the following contaminants of potential concern (COPCs) may be associated with the White Park CERCLIS Site:

- Volatile Organic Compounds (VOCs),
- Semi Volatile Organic Compounds (SVOCs), specifically Base Neutral Acid (BNA) compounds,
- RCRA 8 Metals, and
- Polychlorinated biphenyls (PCBs).

## **2.7 Potentially Responsible Parties**

The portion of the Site occupied by White Park encompasses four tax parcels and a portion of a fifth parcel owned by the City of Morgantown in Monongalia County, West Virginia. These parcels are identified on the Morgantown, Monongalia County, West Virginia Tax Map 48 as parcel numbers 41 and 42, and on Tax Map 48A as parcel numbers 6 and 7, and a portion of parcel 4. The remainder of parcel 4 is also within the Site but lies outside of White Park. According to deeds and tax cards on record at the Monongalia County Courthouse, Morgantown, West Virginia, all parcels were acquired from the Eureka Pipe Line Company of Parkersburg, West Virginia, between 1947 and 1973. The properties comprising parcels 4, 6, and 7 of Tax Map 48A and Parcel 42 of Tax Map 48 were acquired by Eureka Pipe Line Company in various transactions with private individuals between 1891 and 1939. Parcel 41 of Tax Map 48 was acquired by Eureka Pipe Line Company in November

1947 from South Penn Oil Company.

The remaining tank farm area outside White Park consists of a number of primarily commercial land parcels. Tax cards and deed records verified that Eureka Pipe Line Company previously acquired many of these parcels through transactions with private individuals between 1891 and 1939. A number of parcels have been so extensively combined and/or subdivided that nothing short of an exhaustive multi-parcel deed search would verify the ownership prior to the 1970's. However, examination of aerial photographs and tax maps do verify that these parcels were located within the tank farm, and are therefore presumed to have been owned by Eureka Pipe Line Company. A listing of parcels comprising the portions of the Site exclusive of the White Park area is listed below by district and tax map:

District	Map Number	Parcel Number		
City of Morgantown	48A	1 (3.051 ac) 2 (63.54 ac) 2.1 (5.856 ac) 2.2 (3.83 ac)	3 (21.87 ac) 4.1 (24.263 ac) 4.2 (1.2 ac) 4.3 (0.647 ac)	5 (23.3 ac) 8 (2.58 ac)
	49	8 (10.408 ac)		
Morgan District	10	2 (1.85 ac) 2.1 (0.91 ac) 2.3 (5.31 ac) 2.5 (1.27 ac) 2.6 (1.191 ac) 2.7 (3.419 ac)	2.8 (1.024 ac) 2.9 (3.419 ac) 2.11 (1.2 ac) 2.12 (0.98 ac) 2.13 (1.233 ac) 2.14 (2.213 ac)	3.1 (29.69 ac) 3.2 (0.986 ac) 3.3 (1.104 ac) 3.4 (2.102 ac) 3.5 (0.896 ac)
	17	1 (4.621 ac) 2 (18.11 ac)	2.1 (8.28 ac) 2.2 (5.0 ac)	3 (16.114 ac)

The Eureka Pipe Line Company was purchased by Pennzoil Products in 1975, and

subsequently Pennzoil was acquired by the Shell Oil Company in 2002. At the time of discovery in 1988, White Park was owned by the City of Morgantown and operated as a municipal park by BOPARC. Eureka Pipe Line Company and Pennzoil Products, prior to being acquired by Shell, returned to the Site and remediated several "tar pit" areas at White Park that had been observed during site investigations. Quaker State/Pennzoil (a Shell subsidiary) is considered the PRP associated with the Site.

A point of contact for the PRP is:

Joseph D. Phillips, R.G.  
Environmental Specialist  
Shell Lubricants  
HSSE Pennzoil Place, Room 30094  
700 Milam Street  
Houston, Texas 77002  
Phone: 713.546.8517

### **3.0 ENVIRONMENTAL SETTING**

#### **3.1 Topography**

Based on review of the Morgantown, W. VA. USGS 7.5-minute topographic quadrangle map and site reconnaissance activities; the slope of the Site is gently sloping to steeply sloping to the west. Site elevation ranges from approximately 940 feet above mean sea level (amsl) to approximately 840 feet amsl.

The Site topography is likely indicative of groundwater flow direction. As a result, groundwater flow at the Site would be expected to be toward the Cobun Creek Reservoir and then west toward the Monongahela River, located west the Site. The Monongahela River flows in a northerly direction. Surface water runoff at the Site is directed west toward the Cobun Creek Reservoir. Portions of the Site are within the

100-year flood plain of the Cobun Creek and the Cobun Creek Reservoir.

Monongalia County is entirely within the Appalachian Plateau physiographic province. Cobun Creek flows through the Site and Quaternary alluvium deposits are present in portions of the Site adjacent to Cobun Creek. The thickness and areal extent of these deposits is limited by the relatively small size of the creek and steep topography adjacent to Cobun Creek in portions of the Site. These unconsolidated deposits and Site soils are underlain by consolidated bedrock of the lower Conemaugh Group of the Pennsylvanian Period. Sandstone outcrops, most likely consisting of the Buffalo or Mahoning sandstone of the lower Conemaugh Group, are exposed in some areas along the banks of the Cobun Creek Reservoir.

### **3.2 Climate**

Climate and precipitation information for Morgantown, Monongalia County, West Virginia is available at the World Climate web-site ([www.worldclimate.com](http://www.worldclimate.com)). The average minimum temperature is 40.5° F and the average maximum temperature is 63.3° F. The average rainfall is 42-inches a year. A two year/ 24 hour rainfall for Morgantown, West Virginia is reported by the National Oceanic and Atmospheric Administration's National Weather Service (NOAA) as 2.54 inches per year.

### **3.3 Demographics**

Population present within various radii of the Site was determined using Landview Version 1.0 Census Software, base on 2000 census figures. Of the 50,703 people that reside within the HRS target distance limit (TDL) of four miles of the Site, 3,025 are located within 1 mile of the Site.

### **3.4 Soil Exposure Pathway**

Four principal soil units are present at the portion of the Site occupied by White Park. The eastern half of the area between Hite Street and Mississippi Street is occupied by six baseball and softball fields, and is classified as Udorthents, cut and fill (U1) by the United States Department of Agriculture, Soil Conservation Service.

This soil type consists of mixed soil material and rock fragments from areas that have been excavated, graded, or filled. Soils in this unit have been altered or obscured to the extent that on-site investigation is necessary to determine limitations and potential for any proposed use.

The portion of the Site north of Hite Street and west of the ball fields between Hite Street and Mississippi Street is occupied by Zoar silt loam, 8 to 15 percent slopes (ZoC). This soil typically is strongly sloping and moderately well-drained, and is found on terraces. Depth to bedrock is greater than 60 inches. The surface layer is approximately eight inches thick and has a moderate permeability of 0.6 to 2.0 inches per hour. Both the subsoil and substratum consist mostly of silty clay with moderately low permeability of 0.06 to 0.6 inches per hour in the subsoil and 0.06 to 0.2 inches per hour in the substratum. Surface water runoff is rapid, the infiltration rate is slow, and this soil has a seasonal high water table of 1.5 to 3 feet below the surface.

The western portion of the Site south of Mississippi Street and north and west of the Cobun Creek Reservoir consists primarily of Monongahela silt loam, 8 to 15 percent slopes (MgC). This soil typically is strongly sloping and moderately well-drained, and is found on terraces. Depth to bedrock is greater than 60 inches. The surface layer is approximately seven inches thick and has a moderate permeability of 0.6 to 2.0 inches per hour. The subsoil consists of silt loam, loam, and light clay loam, and the substratum consists of sandy clay loam. The subsoil has moderate to moderately low permeability of 0.06 to 2.0 inches per hour, and the substratum has moderately low permeability of 0.2 to 0.6 inches per hour. Surface water runoff is rapid, the infiltration rate is slow, and this soil has a seasonal high water table of 1.5 to 3 feet below the surface.

The portion of the Site south of the Cobun Creek Reservoir to the Green Bag Road is mostly occupied by Clarksburg silt loam, 15 to 25 percent slopes (CkD). This soil typically is moderately steep, moderately well-drained, and is found at the head of

drainage ways and on foot slopes. Depth to bedrock is greater than 60 inches. The surface layer is approximately ten inches thick and has a moderate permeability of 0.6 to 2.0 inches per hour. The subsoil consists of silt loam and channery heavy loam, and the substratum consists of very firm channery heavy loam. The subsoil has moderate to moderately low permeability of 0.06 to 2.0 inches per hour, and the substratum has moderately low permeability of 0.06 to 0.6 inches per hour. Surface water runoff is rapid, infiltration rate is moderately slow to slow, and this soil has a seasonal high water table of 1.5 to 3 feet below the surface.

Soils in the remainder of the tank farm area generally are mapped as the Westmoreland-Culleoka-Clarksburg associations, which are gently sloping to very steep, well-drained to moderately well drained soils on uplands and foot slopes. Soils in these portions of the Site were not further characterized due to extensive disturbances by developments which have altered original soil conditions.

Individuals exposed to site soils would be the recreational visitors. On-site visitors involved in outdoor recreation activities such as baseball, softball, hiking, or picnicking could be exposed to CERCLA contaminants through potential incidental direct contact (incidental oral ingestion, inhalation, and dermal contact). Exposure is less likely in areas that lie outside the boundaries of White Park due to the destruction of former tank areas by construction and extensive paving in developed areas. However, the potential for human exposure to CERCLA contaminants from inhalation of VOC's due to volatilization from subsurface soils to indoor and outdoor (ambient) air could present a risk.

### **3.5 Groundwater Migration Pathway**

Due to underlying geology, groundwater at the Site would be expected to be encountered at depths of less than 100-feet bgs. The direction of groundwater flow at the Site would generally be expected to be west/southwest toward Cobun Creek and the Monongahela River. Groundwater was not encountered during Site investigations.

Private domestic wells or public supply wells are not present or found to be within the HRS groundwater TDL radius of four miles from the Site.

### **3.6 Surface Water Pathway**

Surface water discharges from the Site to Cobun Creek via two small unnamed tributaries which originate within White Park. Drainage from the Site flows south-southwesterly and is directed beneath Mississippi Street through culverts, ultimately discharging to the Cobun Creek Reservoir. The portion of Cobun Creek below the reservoir dam flows approximately one-half mile west-northwesterly before discharging to the Monongahela River.

According to Nick Webb of the Morgantown Utility Board (MUB) the population served by MUB in 2008 was approximately 75,000, including direct customers and customers of smaller local water distribution systems that purchased and resold water supplied by MUB. According to Greg Shellito, MUB Manager of Treatment and Production, approximately 83.7 percent (3.072 billion gallons) was obtained from the Monongahela River at an intake located approximately one-quarter mile upstream from the confluence with Cobun Creek. Approximately 16.3 percent (598 million gallons) of public water is obtained from the Cobun Creek Reservoir through a pipeline located near the dam that leads to the MUB water treatment plant. Withdrawals from the reservoir are seasonal and generally occur between December and May. MUB periodically performs source water analyses (prior to any treatment) for both the Monongahela River and Cobun Creek Reservoir. This data has not been provided for review.

There are no other known surface water intakes for drinking water use along the Monongahela River downstream of the Site within the TDL of 15 miles. However, the Monongahela River is used for recreational activities such as swimming, boating, and fishing resulting in potential human exposure.

### **3.7 Air Pathway**

The principal concern of previous investigations at the Site has been tank bottom residues that are remnant from crude oil storage that ceased in the 1950's. Remnant materials that have not already degraded in the 50+ years since the tank farm ceased operations would most likely be comprised of the heavier hydrocarbon fractions, and there is little potential for such residues to be mobilized as fugitive dust or to volatilize to the atmosphere from surface or subsurface soil. Therefore, the potential for human exposure to CERCLA contaminants from inhalation of fugitive dust and VOC's due to volatilization from surface, subsurface soil and groundwater, to indoor and outdoor (ambient) air is considered low.

However, there is a potential for vapor intrusion into developed areas of the tank farm. These areas, both residential and commercial, are outside of the current project limits and would be addressed in another phase of investigations.

### **3.8 Sensitive Environments**

The Site is not considered to be within an ecologically sensitive area; however, the 17-acre Cobun Creek Reservoir is classified by the United States Fish and Wildlife Service (USFWS), National Wetlands Inventory as a Palustrine, Unconsolidated Bottom, Intermittently Exposed/Permanent, [h] Diked/Impounded. The small (~40 to 50 feet diameter) wetland area that has developed naturally within a dike immediately west-northwest of the "bend" in the reservoir is not classified by the USFWS.

## **4.0 SITE INVESTIGATION**

TRIAD completed site reconnaissance prior to field sampling activities. The 700 acre project area was inspected on foot to determine the presence and condition of the remaining tank dike areas. Twenty one of the originally estimated 76 tank dike areas were found to be present. The remaining dikes have been developed with no visible evidence remaining.

As described in the approved *Sampling and Analysis Plan (SAP)* dated June 2009, TRIAD recommended that surface soils, subsurface soils, groundwater, surface water, and sediment, and solid waste samples be collected at the Site. TRIAD recommended these samples be collected from the following media:

- Surface soil (0-12"),
- Subsurface soil (>2'),
- Groundwater,
- Surface Water and Sediment from Cobun Creek and the Cobun Creek Reservoir.

TRIAD recommended in the approved *SAP* that the media be analyzed for:

- VOCs,
- SVOCs, specifically BNAs,
- RCRA 8 Metals, and
- PCBs.

It was recommended and approved that the laboratory selection and analysis be managed by the USEPA Region 3 client services team Routine Analytical Services (RAS) Contract Laboratory Program (CLP).

#### **4.1 Pre-Sampling Activities**

TRIAD submitted the *SAP* under Task 2 of the approved Work Plan. The *SAP* included a site specific *Field Sampling Plan (FSP)*, *Quality Assurance Project Plan (QAPP)*, and *Health and Safety Plan (HASP)*. The *SAP* was submitted to Pam Hayes, WVDEP OER Project Manager, and to James Hargett, USEPA Region III Project Manager in July 2009. The *SAP* was approved.

Prior to performing the field sampling activities, the following pre-sampling activities

under Task 2 of the approved Work Plan were performed:

- WVDEP received Right of Entry (ROE) from the Morgantown Board of Parks and Recreation Commissioners, Mr. Mark Wise, as well as Mr. Dan Boroff, Morgantown City Manager.
- TRIAD contracted with Environmental Sampling Supply, Inc., Oakland Commerce Center, 9601 San Leandro Street, Oakland, California, to supply sampling containers and preservatives.
- TRIAD contracted with Quality Environmental Containers, P.O. Box 1160, Beaver, West Virginia, to supply sampling containers and preservatives.
- TRIAD assigned CLP sample numbers using the USEPA FORMS II Lite computer software program to each sample to be collected, based on location and analytical request.
- Using USEPA supplied computer forms; TRIAD e-mailed the request for USEPA CLP RAS services to USEPA on July 30, 2009. A copy of the submittal is provided as **Appendix 2, RAS Request**. TRIAD requested 7-day data validation turn-around time.
- USEPA Region III supplied the CLP Case Number 38855 and RAS laboratory assignment to TRIAD on August 4, 2009. A copy of the laboratory and case assignment is provided in **Appendix 3, RAS Assignment**.
- TRIAD performed equipment load-out and mobilization from TRIAD's Morgantown, West Virginia office to the Site on August 17 and 18, 2009.

## 4.2 Field Sampling Schedule and Scope

Under Task 2 of the approved Work Plan, TRIAD began the field sampling activities

at the White Park CERCLIS Site on August 17, 2009 and completed the field sampling activities on August 18, 2009. During the sampling event 13 surface soil, seven subsurface soil, two surface water, and two sediment samples were collected. The sample identifications, CLP numbers, matrix, analysis, tag numbers, quality control sample identification, and collection date and time of each sample are summarized in **Table 1, Sample Collection Summary**. The latitude and longitude of each sample location is summarized in **Table 2, Sample Location Summary**. Deviations from the approved SAP are summarized in **Table 3, Sample Deviation Summary**. The locations of the samples are depicted on **Figure 4, Sample Location Map**.

#### **4.3 Field Sampling Personnel**

The following personnel performed field management, sample collection, preservation, preparation, packaging and shipping as per the approved *SAP*:

- Lydia M. Work, TRIAD (Project Manager and Quality Assurance Officer)
- Carol Phillips, TRIAD (field operations manager)
- Julie Szymanek, TRIAD (field sampling technician)
- Mike Roman, Subsurface, Inc. (Geoprobe direct-push operator and licensed well installer)

#### **4.4 Sample Management and Chain of Custody**

Samples were collected into purchased pre-cleaned sample containers and preserved as designated in the approved *SAP*. The laboratory certificates of analysis, which demonstrate the sample containers' purity used during the investigation, are included as **Appendix 4, Sample Container Certificates of Analysis**.

A sample label and tag were created for each individual sample container. The sample containers were then placed into sealed, zip-lock bags and packed into

shipping containers (coolers) using plastic bubble wrap. Organic samples were temperature preserved with ice.

TRIAD used the USEPA FORMS II Lite computer program to prepare the Traffic Report (TR)/Chain of Custody (COC) record at the end of the sampling event. One original and one copy of the Laboratory TR were placed into a zip-lock bag and taped to the lid of the shipping container. The shipping container was sealed and two custody seals were placed on the shipping container in order to maintain custody integrity during shipment.

The samples were shipped via Federal Express (FedEx) overnight delivery from the TRIAD Morgantown office to the CLP laboratories. A copy of the TRs is included as **Appendix 5, Traffic Reports, Region Copy.**

The following CLP laboratory performed the inorganic (RCRA 8 metals) analyses:

ALS Laboratory Group  
960 West Levoy Drive  
Salt Lake City, UT 84123

The following CLP laboratory performed the inorganic (BNA, VOA, PCB) analyses:

A4 Scientific  
1544 Sawdust Road  
Suite 505  
The Woodlands, TX 77380

#### **4.5 Sample Preservation**

Temperature preservation was not warranted for soils sampled for TAL total metals. All soil and sediment samples collected for BNA, VOC, and PCBs were preserved on ice at a temperature of 4+/- 2°C. Aqueous samples collected for BNA and VOCs were preserved on ice at a temperature of 4 +/- 2°C. Aqueous VOC samples were

also preserved at a pH <2 with HCl. Aqueous RCRA 8 Metals were preserved at a pH <2 with HNO<sub>3</sub>.

#### **4.6 Quality Control**

##### **4.6.1 Field Quality Control**

TRIAD collected field duplicates for each media. These samples are identified on **Table 1, Sample Collection Summary**.

##### **4.6.2 Matrix Quality Control**

TRIAD collected matrix spike and matrix duplicate samples for each media. These samples are identified on **Table 1, Sample Collection Summary**.

#### **4.7 Sampling and Analysis Plan (SAP) Deviations**

During field sampling activities, the following deviations occurred from the approved SAP:

- Groundwater samples were not collected due to bedrock refusal prior to groundwater.
- SS/SB 13 and SS/SB 14 were deleted due to inability to access the former tank locations by the Geoprobe direct push rig.
- SB 2, SB 5, SB 6, SB 7, SB 12, SB 13, and SB 14 were deleted due to inability to access the former tank locations.
- SW/SD 1 was relocated south of its proposed location within the Cobun Creek reservoir
- SW/SD 2 was relocated west of its proposed location to within the confluence of Cobun Creek and the reservoir.

#### **5.0 SAMPLING SUMMARY**

WVDEP, OER and USEPA authorized TRIAD to implement the Sampling and

Analysis Plan in July 2009. TRIAD performed the field sampling activities at the White Park CERCLIS Site on August 17 and 18, 2009. The locations of these samples are depicted on **Figure 4, Sample Location Map**. Quality control (QC) samples were also collected during the sampling event. Photographs of the Site taken during SIR Field sampling activities are provided in **Appendix 6, Site Photographs**.

The objective of the 2009 SIR was to generate data of sufficient quality and quantity to provide recommendations to the WVDEP and USEPA as to the identification of source areas at the Site and to calculate a preliminary HRS Score for the Site.

### **5.1 Surface Soil Sampling**

Thirteen surface soil samples, 0 - 12 inches below ground surface (bgs), were collected for BNA and RCRA 8 Metals analysis. Refer to **Table 1, Sample Collection Summary** for more detail.

### **5.2 Subsurface Soil Sampling**

Seven subsurface soil samples (>12 inches bgs) were collected for VOC, BNA, PCB, and RCRA 8 Metals analysis. Refer to **Table 1, Sample Collection Summary** for more detail. Boring logs of each subsurface soil sampling location are provided as **Appendix 7**.

### **5.3 Surface Water and Sediment Sampling**

Two surface water samples were collected for VOC, BNA, and total metals analysis and two sediment samples were collected for VOC, BNA, PCB, and RCRA 8 Metals analysis. Refer to **Table 1, Sample Collection Summary** for more detail.

### **5.4 Quality Control Samples**

Field personnel also procured quality control (QC) samples during the investigation

to assess sampling precision, effectiveness of decontamination procedures, sample temperature preservation, any evidence of sample cross-contamination, and matrix effect of each media as applicable. The following QC samples were obtained:

- Field duplicates (FD)
- Matrix spikes and matrix duplicates (MS/DUP), inorganics
- Matrix spikes and matrix spike duplicates (MS/MSD), organics
- Trip Blanks

Summaries of the QC Samples are provided in **Table 1, Sample Collection Summary**. The Field Duplicate samples met the data quality objectives (DQO's) of the site specific *Sampling and Analysis Plan* for all media analyzed.

## **6.0 ANALYTICAL RESULTS**

### **6.1 Analytical Scope**

Data obtained during SIR activities may be used for a range of purposes by USEPA and the WVDEP. Therefore, based on available historical information on the activities on the Site and consultation with the WVDEP Project Manager and USEPA Region III Site Assessment Officer, data collected were analyzed for:

- VOCs,
- BNAs,
- RCRA 8 Metals, and
- PCBs.

### **6.2 Analytical Procedures**

It was recommended and approved that the laboratory selection and analysis be managed by the USEPA Region 3 client services team. Metals were analyzed and reported via the ILM05.4 USEPA Routine Analytical Services (RAS) Contract

Laboratory Program (CLP) current Statement of Work (SOW). VOCs, PAHs and PCBs were analyzed and reported via the SOM01.2 USEPA RAS CLP SOW.

### **6.3 Data Reported**

The USEPA Region 3 client services team provided the analytical results in both text and spreadsheet form. Data Summary Forms of the analytical data reported are presented in **Appendix 8, Analytical Results**. The data are reported according to individual sample delivery groups (SDGs):

- Organics
  - SDG MC2139
- Inorganics
  - SDG MC20R3
  - SDG MC2139
  - SDG MC2144
  - SDG MC2170

### **6.4 Data Validation Process**

In accordance with the approved Work Plan and as authorized by the USEPA Region 3, Site Assessment Manager, the analytical results underwent data validation. The CLP data were validated by USEPA Region 3 according to the following data validation levels *Understanding Region III Data Validation* (February 25, 2000):

- Inorganic review procedures IM-1
- Organic review procedures M-2

The data validation reports are provided along with the laboratory analytical data in **Appendix 8, Analytical Results**.

## 7.0 SELECTION OF CONTAMINANTS OF CONCERN

TRIAD has reviewed the laboratory analytical data for the SIR investigation in order to identify and select contaminants of concern (COCs) at the Site. A COC is defined as any individual compound or analyte that was analyzed under the most recent site assessment activities. COCs were selected based on criteria in the USEPA *Risk Assessment Guidance for Superfund (RAGS), Volume 1, Human Health Evaluation Manual (Part A), Interim Final*. To be selected as a COC, a compound or analyte had to be:

- detected at least once at a concentration greater than the contract required detection limit (CRDL) and
- detected at a concentration greater than the applicable action level concentration to which it is compared.

In addition, soil inorganic results had to be detected at a concentration greater than their published maximum background concentration for soil in West Virginia, as published in the *West Virginia VRRDA Guidance Manual (version 2.1)*.

The SIR laboratory analytical data were compared by media to the following USEPA and WVDEP environmental criteria and standards to select COCs:

### Surface and Subsurface Soil:

- USEPA Region III, *Residential Soil Ingestion Risk Based Concentrations (RBCs)*, April 2009.
- USEPA Region III, *Industrial Soil Ingestion RBCs*, April 2009.
- USEPA Region III, *Soil Migration to Groundwater, DAF=20*, RBCs, April 2009.
- USEPA OSW Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities (OSWER Directive #9355.4-12 August 1994).
- West Virginia *Voluntary Remediation and Redevelopment Act Guidance Manual (Version 2.1) Table 2-3 Natural Background Levels of Inorganics in*

## *Soil in West Virginia and Surrounding Areas.*

### **Surface Water:**

- USEPA Region III, *Freshwater Screening Benchmarks.*

### **Sediment:**

- USEPA Region III, *Freshwater Sediment Screening Benchmarks.*

The occurrence and distribution of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison purposes are summarized relative to environmental media in **Table 4** through **Table 7**. The comparison of these data to the applicable environmental action levels and criteria are presented in the following subsections.

## **7.1 Surface Soil Results**

There is a potential for direct exposure to surface soils by recreational visitors to the Site due to unrestricted access and close proximity to recreational areas such as the developed park facilities, including baseball/softball fields, playground, ice rink, picnic shelter, and restrooms. Therefore, surface soils were compared to residential (recreational exposure) risk based concentrations (RBCs).

### **7.1.1 Metals**

Arsenic was detected at concentrations greater than the action level when compared to residential RBCs. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 4A Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Surface Soils.**

### 7.1.2 BNAs

Naphthalene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, and indeno(1,2,3-cd)pyrene were detected at concentrations greater than their respective action levels for residential RBCs. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 4B Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Surface Soils.**

## 7.2 Subsurface Soil Results

There is a potential for leaching of subsurface soil contaminants to groundwater. Both groundwater and surface water contribute to the Cobun Creek Reservoir, which is a public water supply intake. Therefore, subsurface soils were compared to migration to groundwater RBCs.

### 7.2.1 Metals

Arsenic was detected at concentrations greater than the action levels for migration to groundwater RBCs in subsurface soils.

The greatest concentration of arsenic was detected in sample SB4 which was collected in the area of observed free product, near Tank 40 (refer to Figure 4).

The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 5A, Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Subsurface Soils-Inorganics.**

### 7.2.2 BNAs

Naphthalene was detected at concentrations greater than the action levels for migration to groundwater in the West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual.

The greatest concentration of naphthalene detected in sample SBS4 which was collected in the area of observed free product, near Tank 40 (refer to Figure 4).

The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 5B, Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Subsurface Soils-Semi Volatile Organic Compounds.**

### 7.2.3 VOCs

Methylene chloride, benzene, 1,2-dichloroethane, ethylbenzene, and 1,1,2,2-tetrachloroethane were detected at concentrations greater than the action levels for migration to groundwater in the West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual.

The greatest concentration of the above noted COCs were detected in sample SB4, which was collected in the area of observed free product near Tank 40 (refer to Figure 4).

The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 5C, Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Subsurface Soils-Volatile Organic Compounds.**

#### **7.2.4 PCBs**

PCBs were not detected in any of the subsurface soil samples collected.

The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 5D, Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Subsurface Soils-Polychlorinated Biphenyl Compounds.**

#### **7.3 Sediment Results**

Phenanthrene, fluoranthene, pyrene, benzo (a) anthracene, chrysene, benzo (b) fluoranthene, benzo (k) fluoranthene, benzo (a) pyrene, indeno (1,2,3-cd) pyrene, and benzo (g,h,i) perylene were detected at concentrations greater than the USEPA Region 3 Risk Assessment Freshwater Sediment Screening Benchmarks.

No metals or VOCs were detected above their respective RBCs in sediments sampled.

The greatest concentration of the above noted COCs were detected in sample SD1, which is located upstream of the reservoir near the confluence of Cobun Creek and the Cobun Creek Reservoir.

The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Tables 6A thru 6C, Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Sediments.**

#### **7.4 Surface Water Results**

##### **7.4.1 Metals**

Barium was detected in all three samples at concentrations greater than its USEPA Region 3 BTAG Risk Assessment Freshwater Screening

Benchmarks, as of September 2009. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 7A, Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Surface Water-Metals.**

#### **7.4.2 BNAs**

BNAs were reported at concentrations less than the CRDL or less than the RBC; therefore, they were not considered COCs. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 7B, Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Surface Water-Semi Volatile Organic Compounds.**

#### **7.4.3 VOCs**

VOCs were reported at concentrations less than the CRDL; therefore, they were not considered COCs. The occurrence, distribution and selection of COPCs, selection of COCs, and the specific action level risk based concentration or criteria used for comparison are summarized in **Table 7C, Occurrence, Distribution and Selection of COCs and HRS Observed Releases –Surface Water- Volatile Organic Compounds.**

### **8.0 VERIFICATION OF CONCEPTUAL SITE MODEL**

Human health potentially complete exposure pathways were identified for incidental ingestion, dermal contact, and inhalation of volatile emissions associated with COCs in soil by recreational visitors and anglers due to COCs detected in surface soils.

The human health groundwater exposure pathways for ingestion are not complete.

Human health potentially complete exposure pathways for inhalation of volatile emissions in indoor air are not complete for locations within this current study. However, there is a potential for vapor intrusion into developed areas of the tank farm. These areas are outside of the current project limits and would be addressed in another phase of investigations.

Human health potentially complete exposure pathways may exist for incidental ingestion, dermal contact, and fish consumption with surface water contaminants by recreational visitors and/or anglers via a surface runoff and/or groundwater to surface water migration pathway, as well as COCs present in surface water and sediment.

All potentially complete ecological exposure pathways were identified for terrestrial and/or semi-aquatic life potentially exposed to site-related contaminants in soil as well as COCs migrating from surface runoff to surface water pathways. A potentially complete ecological exposure pathway was identified for aquatic life exposed to site-related contaminants in surface water. The ecological exposure pathway for groundwater could not be determined, as groundwater was not encountered during site investigations.

A visual representation of each conceptual site model is presented as **Figure 6, Human Health Conceptual Site Model** and as **Figure 7, Ecological Conceptual Site Model**.

## **9.0 HAZARD RANKING SYSTEM SCORE**

TRIAD calculated a preliminary Hazard Ranking System (HRS) site score of **42.49**. The HRS model output is provided as **Appendix 9, 2009 HRS Site Score Package**. The preliminary HRS site score is discussed in more detail below.

### 9.1 Observed Release

Only substances that meet the criteria for an “observed release,” according to its respective media and location were entered into the USEPA HRS QuickScore version 2.3 computer model.

An HRS observed release is established when a sample concentration is three times or greater than that of the background concentration. In cases of the background concentration being non-detect or not measured, the concentration of the substance must be greater than the CRDL to qualify as an observed release. The COPCs which met the criteria for a HRS observed release are presented in **Tables 4** through **7** as well as summarized in the following HRS pathway sections.

It is important to note the QuickScore computer model does not account for the concentration of the substance, only whether or not it is observed. Therefore, substances detected at de minimis concentrations will carry the same calculated weight as if they were detected above applicable action level concentrations. This may result in an overestimation of actual risk.

### 9.2 Source of Contamination

The source of contamination assigned to the White Park CERCLIS HRS site score is a surface impoundment associated with Tank 40 (refer to Figure 4). A release of petroleum products and measured COCs was observed. The Cobun Creek Reservoir is approximately 100 feet down gradient of the source of contamination.

### 9.3 Hazardous Waste Quantity (HWQ)

Hazardous waste quantity (HWQ) at the Site was calculated based on the estimated volume of the surface impoundment. A field survey of the area is provided as **Figure 5, Area of Concern Topographic Map**. The impoundment associated with Tank 40 was estimated to be 689 cubic yards. A HWQ of 100 was calculated by using Tier C of the HRS.

## 9.4 Pathway Scores

The overall HRS site score is calculated using the USEPA QuickScore computer model which evaluates four individual potential contaminant migration pathways. The individual migration pathway scores at the Site are as follows:

Groundwater migration pathway score: (0)

Surface water migration pathway score: (84.72)

Soil exposure pathway score (uncapped): (6.59)

Air migration pathway score: (0)

Based on these four pathway scores, the QuickScore computer model calculated an overall **HRS site score of 42.49**. The model reflects current site conditions and the laboratory analytical data obtained during the 2009 SIR field sampling investigation. The QuickScore model indicates the surface water migration pathway is the critical pathway of concern at the Site. Each pathway score is discussed in the following sections.

### 9.4.1 Groundwater Migration Pathway

The groundwater migration pathway evaluates threats resulting from releases or potential releases of hazardous substances to aquifers. A groundwater migration score is calculated for each aquifer that underlies sources at the Site. The highest groundwater migration score then becomes the assigned score for the groundwater migration pathway.

Groundwater at the site was not encountered and was therefore assessed as a potential to release. The groundwater migration pathway can be summarized in the following table:

<b>Exposure Pathway</b>	<b>HRS Observed Releases?</b>	<b>Targets?</b>	<b>Pathway Complete?</b>
Groundwater	No	No	No

#### **9.4.2 Surface Water Migration Pathway**

The surface water migration pathway is a function of two individual migration components:

- Surface water overland/flood migration component
- Groundwater to surface water migration component

Both of these migration components are scored independently by the QuickScore computer model. The highest of either score then becomes the assigned score for the surface water migration pathway. These two migration components themselves are a function of three individual target threats:

- Drinking water target threat
- Human food chain target threat
- Environmental target threat

The target threats are also scored independently. The sum of the three individual target threat scores then becomes the score for the migration component. The surface water overland/flood migration component and target threat scores are summarized as follows:

Surface water overland/flood migration component: (84.72)

- Drinking water target threat: (77.52)
- Human food chain target threat: (0.41)
- Environmental target threat: (6.79)

The Cobun Creek Reservoir, as secondary source of drinking water for The City of Morgantown, is located approximately 100 feet down gradient of the observed release in the area of Tank 40. It is the potential of release from the source to the reservoir that is driving the pathway score. It is important to note no COCs were detected in the Cobun Creek Reservoir surface water.

The groundwater-to-surface-water migration component and target threat scores are summarized as follows:

Groundwater to surface water migration component: (0.03)

- Drinking water target threat: (0.00)
- Human food chain target threat: (0.03)
- Environmental target threat: (0.00)

The surface water migration pathway can be summarized in the following table:

<b>Exposure Pathway</b>	<b>HRS Observed Releases?</b>	<b>Targets?</b>	<b>Pathway Complete?</b>
Surface Water	No	Yes	Potential

### 9.4.3 Soil Exposure Pathway

Concentrations that are HRS observed releases and exceed the action levels are considered Level I concentrations. Concentrations that are HRS observed releases but did not exceed the action level, and are therefore not COCs, are considered Level II concentrations for HRS scoring purposes. The following table summarizes the HRS observed releases in the soil exposure pathway and their corresponding level.

<b>COC</b>	<b>Level I Concentration</b>	<b>Level II Concentration</b>
Naphthalene	<b>X</b>	
2-Methylnaphthalene	<b>X</b>	
1,1'-Biphenyl	<b>X</b>	
Phenanthrene	<b>X</b>	
Fluoranthene	<b>X</b>	
Benzo(a)anthracene		<b>X</b>
Benzo(b)fluoranthene		<b>X</b>
Benzo(k)fluoranthene	<b>X</b>	
Benzo(a)pyrene		<b>X</b>
Indeno(1,2,3-cd)pyrene	<b>X</b>	
Arsenic	<b>X</b>	
Barium	<b>X</b>	
Lead	<b>X</b>	
Mercury	<b>X</b>	

The soil exposure pathway is a function of two direct exposure threats:

- Resident population threat
- Nearby population threat

These two direct exposure components are based on three factor categories:

- Likelihood of Exposure
- Waste Characteristics
- Targets

The sum of the two direct exposure threat scores then become a factor in the score for the soil exposure pathway. The direct exposure threat scores are summarized as follows:

- Resident population threat: (0)
- Nearby population threat: (544,000)

There are no Resident Individuals within 200 feet of the source. Recreational Users would be the group most likely exposed to soil contamination.

The soil exposure pathway can be summarized in the following table:

<b>Exposure Pathway</b>	<b>HRS Observed Releases?</b>	<b>Targets?</b>	<b>Pathway Complete?</b>
Soil	Yes	Yes (Nearby Population)	Yes

#### **9.4.4 Air Exposure Pathway**

The air exposure pathway evaluates threats resulting from releases or potential releases of gas and/or particulates to the air.

The air exposure pathway was not evaluated for the Site. Air and soil gas samples were not collected during the 2009 site investigation. However, a complete air exposure pathway is likely as there are recreational visitors located within 200 feet of contaminated surface and subsurface soil.

The air exposure pathway can be summarized in the following table:

<b>Exposure Pathway</b>	<b>HRS Observed Releases?</b>	<b>Targets?</b>	<b>Pathway Complete?</b>
Air	No (Data Gap)	Yes	No (Data Gap)

## **10.0 SUMMARY AND RECOMMENDATIONS**

The White Park CERCLIS Site has CERCLIS site designation WVD98766168. The Site's current CERCLA status is "active" and the Site is not listed on the NPL. A Preliminary Assessment (PA) was performed in March 1989 by WVDNR, WMS.

A preliminary Hazard Ranking System (HRS) site score of 35.20 was calculated for

the Site and a CERCLA site investigation was recommended. In April 1989, WVDNR WMS Site Investigation and Response (SIR) personnel inspected the Site and a second HRS site score of 36.87 was calculated. In 1998, reclamation work was completed by the Eureka Pipe Line Company at three dike areas with exposed hydrocarbon residues. These activities were not considered in the previously generated HRS site scores. Subsequently, the WVDEP, OER determined further assessment was warranted to determine potential risk associated with the Site and if the Site should undergo further investigation under CERCLA. As part of a 2004 Executive Summary, an HRS Site Score of 0.0 was calculated for the Site. This score could be underestimated due to data gaps, such as lack of groundwater quality data and subsurface soil data as well as current surface water quality data from the Cobun Creek Reservoir.

Based on these 2009 SIR activities, TRIAD calculated a preliminary Hazard Ranking System (HRS) site score of **42.49**. The source of contamination is a surface impoundment associated with former Tank 40 (refer to Figure 4). A release of petroleum products and measured COCs was observed. The Cobun Creek Reservoir, a secondary source of drinking water for the City of Morgantown, is approximately 100 feet down gradient of the source of contamination.

TRIAD concludes the following:

- Contamination to site soils from historical land use (tank farm) exists.
- Recreational visitors are being exposed to surface soil concentrations above risk-based concentrations.
- The risk of a release to Cobun Creek Reservoir via overland flow exists.

Based on these SIR activities, TRIAD recommends the following for consideration:

- Removal of the area of observed free product in the diked area of Tank 40.
- If not already in place, groundwater and future land use be restricted through a land use covenant or deed restriction.

The PRP, Quaker State/Pennzoil (a Shell subsidiary), is currently in discussions with the WVDEP and the City of Morgantown regarding remediation of the area of observed release. Pennzoil/Quaker State has made a verbal commitment to develop a remedial action work plan for WVDEP approval that includes but is not limited to, removal of the contamination. The remediation work is scheduled to be performed in January 2010.

## REFERENCES

*Executive Summary, White Park CERCLIS Site, TRIAD Engineering, Inc., October 2004.*

*Sampling and Analysis Plan, Quality Assurance Plan, Field Sampling Plan, and Health and Safety Plan, White Park CERCLIS Site, TRIAD ENGINEERING, INC., July 2009.*

*Hazard Ranking System; Final Rule. United State Environmental Protection Agency, December 14, 1990.*

*West Virginia Voluntary Remediation and Redevelopment Rule, Title 60 Code of State Regulations, Series 3, as established in the Voluntary Remediation and Redevelopment Act, WV Code §22-22-1, West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, version 2.1 Table 2-3 Published Background Maximum Concentration in Soil.*

*Memorandum: OSWER Directive: Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. United States Environmental Protection Agency, August 1994. Office of Solid Waste and Emergency Response. Directive 9355.4-12*

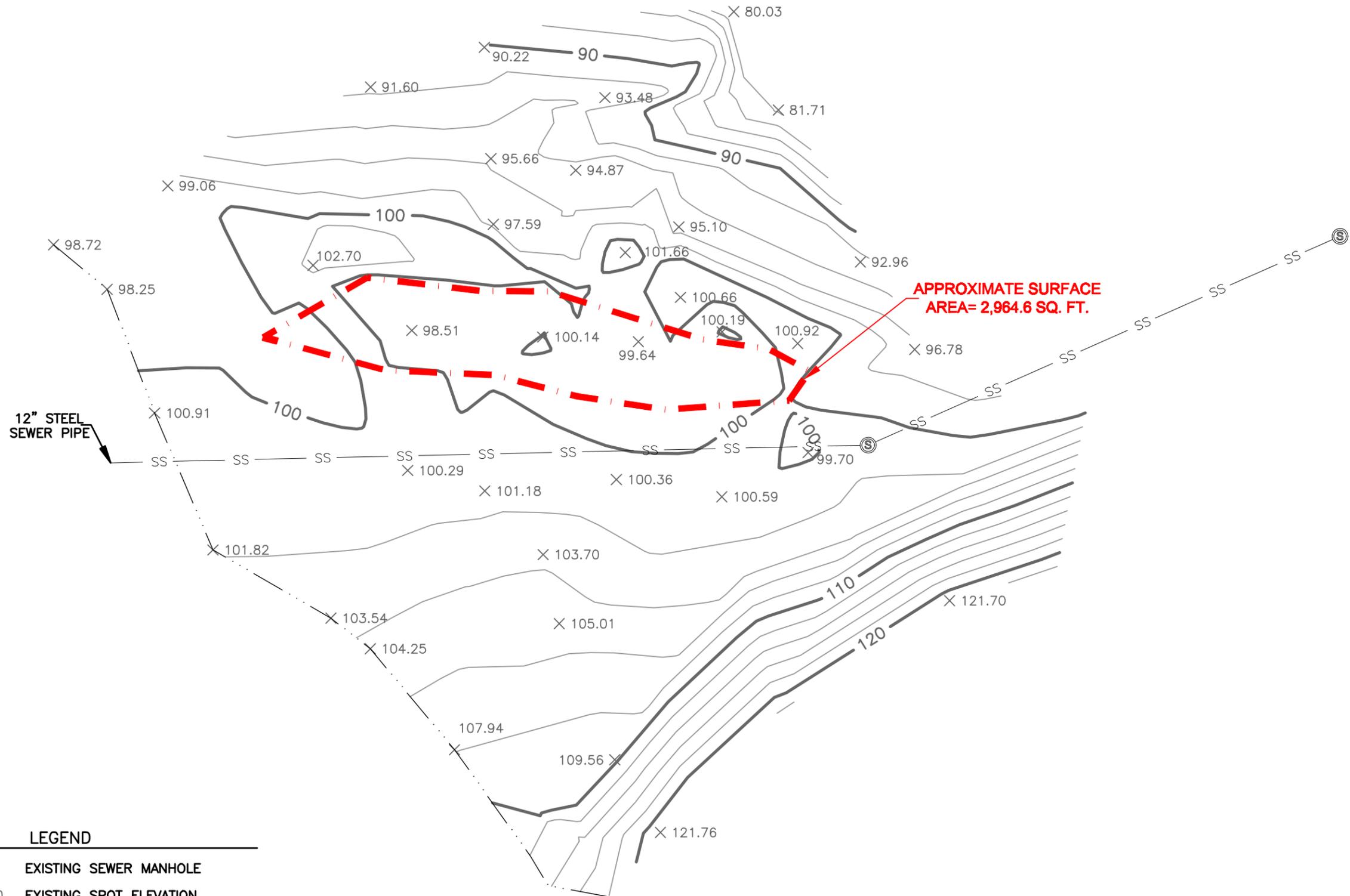
*The Hazard Ranking System Guidance Manual.* United States Environmental Protection Agency, November 1992. Office of Solid Waste and Emergency Response. Directive 9345.1-07.

# FIGURES





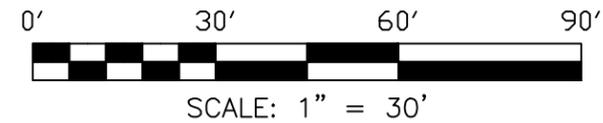
COBUN CREEK RESERVOIR



LEGEND

- ⊙ EXISTING SEWER MANHOLE
- × 100.00 EXISTING SPOT ELEVATION
- EXISTING AREA OF CONCERN
- SS EXISTING SANITARY SEWER
- EXISTING STREAM

Note: 1. Horizontal control has been developed relative to an assumed coordinate system oriented to a locally observed magnetic meridian.  
 2. Vertical control has been developed relative to an assumed locally established elevation datum.



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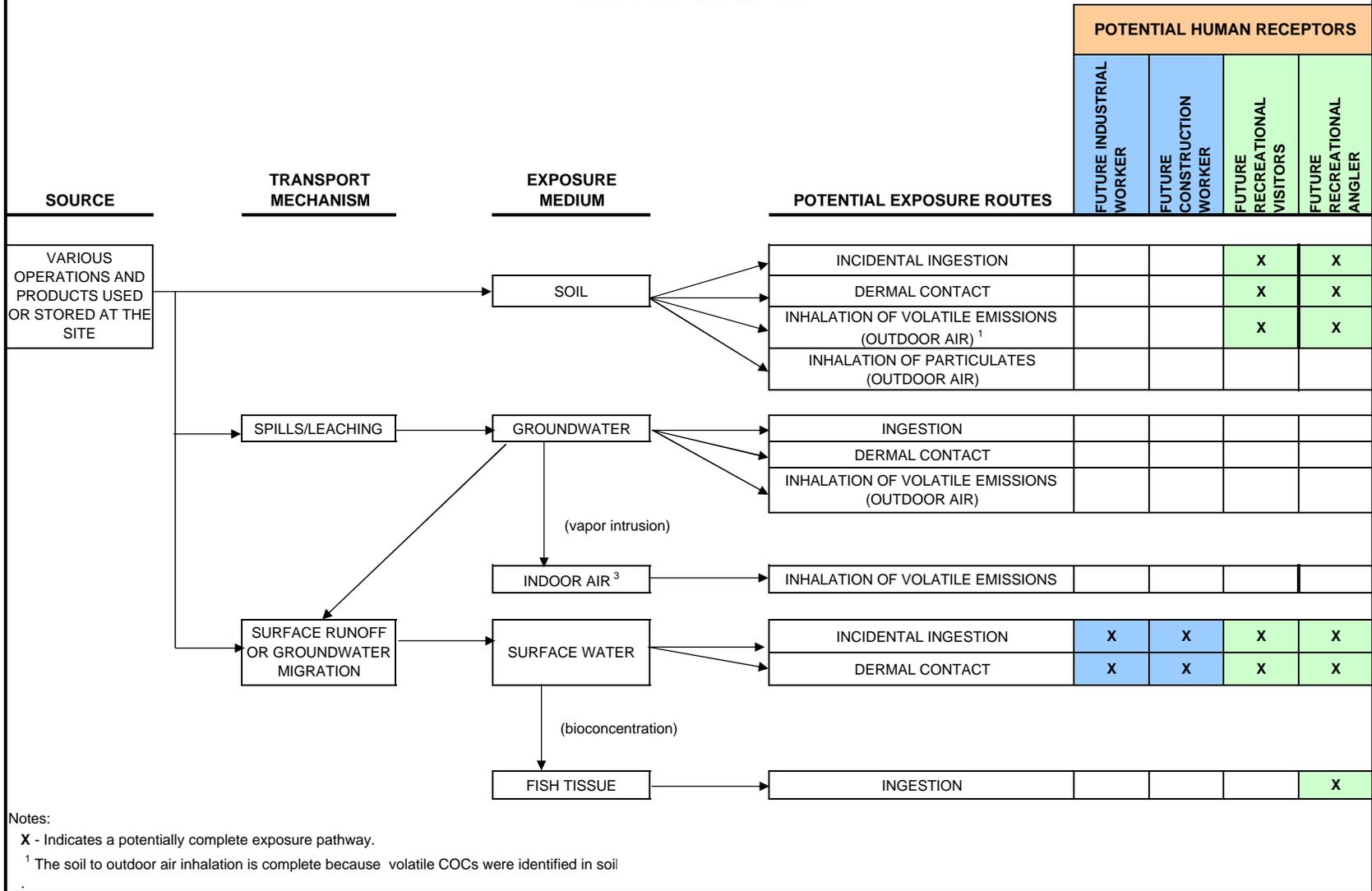
CADD FILE: 01-09-0110 WHITE PARK.DWG	JOB NO: 01-09-0110	DRAWN BY: NTM	CHECKED BY: HWC	SCALE: 1" = 30'
DATE: 08-08-2009				

**WHITE PARK  
 MORGANTOWN, WV  
 AREA OF CONCERN  
 TOPOGRAPHIC SURVEY**

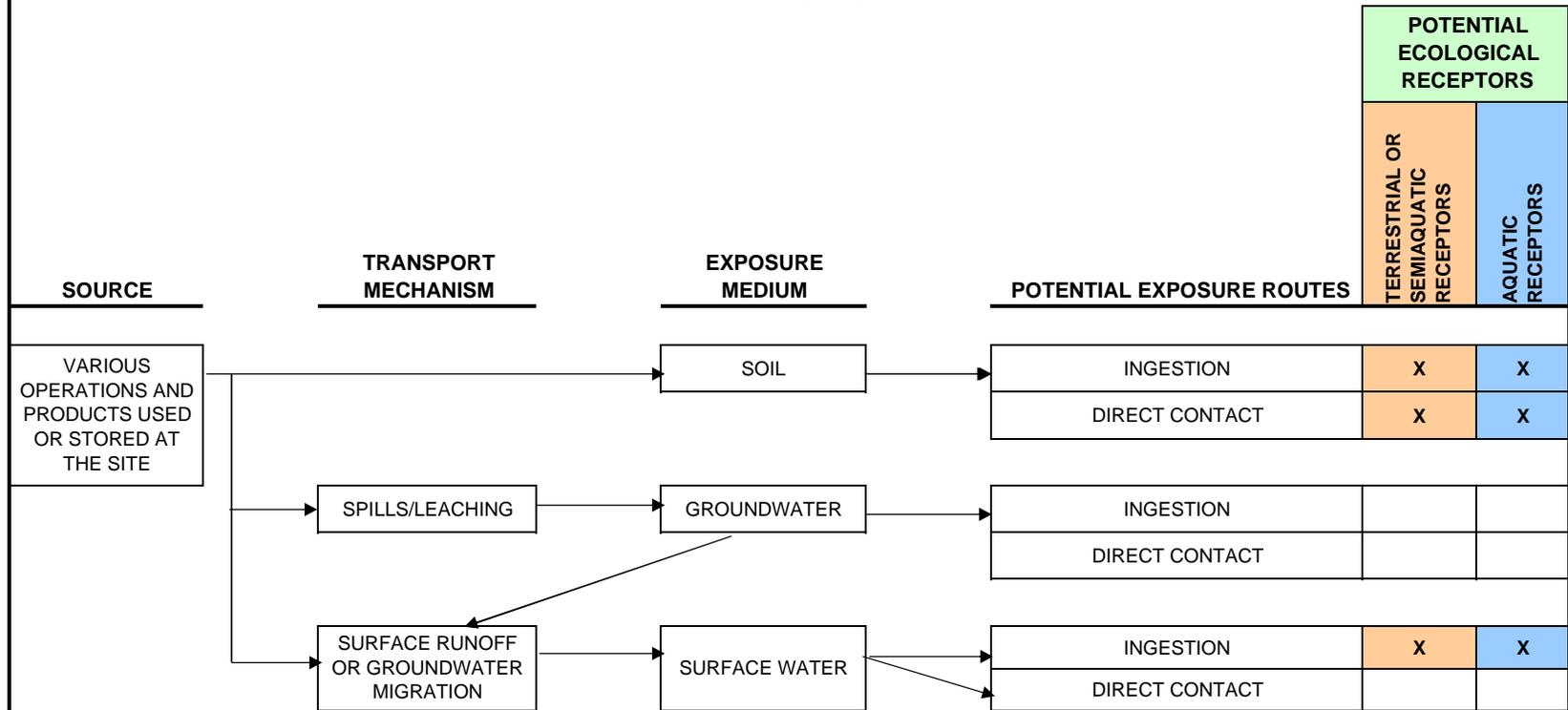


FIGURE NUMBER:  
**5**  
 JOB NO.: 01-09-0110

**FIGURE 6  
HUMAN HEALTH CONCEPTUAL SITE MODEL  
White Park CERCLIS Site**



**FIGURE 7  
ECOLOGICAL CONCEPTUAL SITE MODEL  
White Park CERCLIS Site**



Notes:

X - Indicates a potentially complete exposure pathway.

# **TABLES**

**Table 1. Sample Collection Summary**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

Sample ID	CLP Number	Case Number	Matrix	Analysis	TAG Number	QC	Date	Time
SB1	C2144	38855	Subsurface Soil	CLP TCL Semivolatiles	3 22	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	PCBs (AROCLORS)	3 35	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 25	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 26	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 31	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 29	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 28	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 24	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 33	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 23	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 32	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 34	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 27	MS/MSD	8/17/2009	2:25 PM
SB1	C2144	38855	Subsurface Soil	CLP TCL Volatiles	3 30	MS/MSD	8/17/2009	2:25 PM
SB1	MC2144	38855	Subsurface Soil	RCRA 8 METALS	3 36	MS/MSD	8/17/2009	2:25 PM
SB2	C2145	38855	Subsurface Soil	PCBs (AROCLORS)	3 42	FD of SB1	8/17/2009	2:27 PM
SB2	C2145	38855	Subsurface Soil	CLP TCL Semivolatiles	3 37	FD of SB1	8/17/2009	2:27 PM
SB2	C2145	38855	Subsurface Soil	CLP TCL Volatiles	3 38	FD of SB1	8/17/2009	2:27 PM
SB2	C2145	38855	Subsurface Soil	CLP TCL Volatiles	3 41	FD of SB1	8/17/2009	2:27 PM
SB2	C2145	38855	Subsurface Soil	CLP TCL Volatiles	3 39	FD of SB1	8/17/2009	2:27 PM
SB2	C2145	38855	Subsurface Soil	CLP TCL Volatiles	3 40	FD of SB1	8/17/2009	2:27 PM
SB2	MC2145	38855	Subsurface Soil	RCRA 8 METALS	3 43	FD of SB1	8/17/2009	2:27 PM
SB3	MC2146	38855	Subsurface Soil	RCRA 8 METALS	3 50		8/18/2009	11:35 AM
SB3	C2146	38855	Subsurface Soil	CLP TCL Semivolatiles	3 44		8/18/2009	11:35 AM
SB3	C2146	38855	Subsurface Soil	CLP TCL Volatiles	3 46		8/18/2009	11:35 AM
SB3	C2146	38855	Subsurface Soil	CLP TCL Volatiles	3 48		8/18/2009	11:35 AM
SB3	C2146	38855	Subsurface Soil	CLP TCL Volatiles	3 45		8/18/2009	11:35 AM
SB3	C2146	38855	Subsurface Soil	CLP TCL Volatiles	3 47		8/18/2009	11:35 AM
SB3	C2146	38855	Subsurface Soil	PCBs (AROCLORS)	3 49		8/18/2009	11:35 AM

**Table 1. Sample Collection Summary**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

Sample ID	CLP Number	Case Number	Matrix	Analysis	TAG Number	QC	Date	Time
SB4	C2147	38855	Subsurface Soil	CLP TCL Semivolatiles	3 51		8/18/2009	4:34 PM
SB4	C2147	38855	Subsurface Soil	CLP TCL Volatiles	3 52		8/18/2009	4:34 PM
SB4	C2147	38855	Subsurface Soil	CLP TCL Volatiles	3 53		8/18/2009	4:34 PM
SB4	C2147	38855	Subsurface Soil	PCBs (AROCLORS)	3 56		8/18/2009	4:34 PM
SB4	MC2147	38855	Subsurface Soil	RCRA 8 METALS	3 57		8/18/2009	4:34 PM
SB8	MC2148	38855	Subsurface Soil	RCRA 8 METALS	3 64		8/17/2009	10:24 AM
SB8	C2148	38855	Subsurface Soil	CLP TCL Volatiles	3 59		8/17/2009	10:24 AM
SB8	C2148	38855	Subsurface Soil	CLP TCL Volatiles	3 61		8/17/2009	10:24 AM
SB8	C2148	38855	Subsurface Soil	CLP TCL Volatiles	3 60		8/17/2009	10:24 AM
SB8	C2148	38855	Subsurface Soil	CLP TCL Volatiles	3 62		8/17/2009	10:24 AM
SB8	C2148	38855	Subsurface Soil	PCBs (AROCLORS)	3 63		8/17/2009	10:24 AM
SB8	C2148	38855	Subsurface Soil	CLP TCL Semivolatiles	3 58		8/17/2009	10:24 AM
SB9	C2149	38855	Subsurface Soil	PCBs (AROCLORS)	3 70		8/17/2009	11:50 AM
SB9	C2149	38855	Subsurface Soil	CLP TCL Volatiles	3 66		8/17/2009	11:50 AM
SB9	C2149	38855	Subsurface Soil	CLP TCL Volatiles	3 69		8/17/2009	11:50 AM
SB9	C2149	38855	Subsurface Soil	CLP TCL Volatiles	3 68		8/17/2009	11:50 AM
SB9	C2149	38855	Subsurface Soil	CLP TCL Volatiles	3 67		8/17/2009	11:50 AM
SB9	C2149	38855	Subsurface Soil	CLP TCL Semivolatiles	3 65		8/17/2009	11:50 AM
SB9	MC2149	38855	Subsurface Soil	RCRA 8 METALS	3 71		8/17/2009	11:50 AM
SB10	MC2150	38855	Subsurface Soil	RCRA 8 METALS	3 78		8/17/2009	3:55 PM
SB10	C2150	38855	Subsurface Soil	PCBs (AROCLORS)	3 77		8/17/2009	3:55 PM
SB10	C2150	38855	Subsurface Soil	CLP TCL Volatiles	3 74		8/17/2009	3:55 PM
SB10	C2150	38855	Subsurface Soil	CLP TCL Volatiles	3 76		8/17/2009	3:55 PM
SB10	C2150	38855	Subsurface Soil	CLP TCL Volatiles	3 75		8/17/2009	3:55 PM
SB10	C2150	38855	Subsurface Soil	CLP TCL Volatiles	3 73		8/17/2009	3:55 PM
SB10	C2150	38855	Subsurface Soil	CLP TCL Semivolatiles	3 72		8/17/2009	3:55 PM
SB11	C2151	38855	Subsurface Soil	CLP TCL Semivolatiles	3 79		8/18/2009	10:21 AM
SB11	C2151	38855	Subsurface Soil	CLP TCL Volatiles	3 83		8/18/2009	10:21 AM
SB11	C2151	38855	Subsurface Soil	CLP TCL Volatiles	3 80		8/18/2009	10:21 AM
SB11	C2151	38855	Subsurface Soil	CLP TCL Volatiles	3 82		8/18/2009	10:21 AM
SB11	C2151	38855	Subsurface Soil	CLP TCL Volatiles	3 81		8/18/2009	10:21 AM
SB11	C2151	38855	Subsurface Soil	PCBs (AROCLORS)	3 84		8/18/2009	10:21 AM
SB11	MC2151	38855	Subsurface Soil	RCRA 8 METALS	3 85		8/18/2009	10:21 AM

**Table 1. Sample Collection Summary**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

Sample ID	CLP Number	Case Number	Matrix	Analysis	TAG Number	QC	Date	Time
SD1	C2139	38855	Sediment	CLP TCL Semivolatiles	3 1	MS/MSD	8/17/2009	3:28 PM
SD1	MC2139	38855	Sediment	RCRA 8 METALS	3 7	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 93	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 88	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 90	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 89	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 87	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 92	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 86	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 91	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	CLP TCL Volatiles	3 94	MS/MSD	8/17/2009	3:28 PM
SD1	C2139	38855	Sediment	PCBs (AROCLORS)	3 6	MS/MSD	8/17/2009	3:28 PM
SD2	C2140	38855	Sediment	CLP TCL Semivolatiles	3 8		8/17/2009	2:05 PM
SD2	C2140	38855	Sediment	CLP TCL Volatiles	3 12		8/17/2009	2:05 PM
SD2	C2140	38855	Sediment	CLP TCL Volatiles	3 9		8/17/2009	2:05 PM
SD2	C2140	38855	Sediment	CLP TCL Volatiles	3 11		8/17/2009	2:05 PM
SD2	C2140	38855	Sediment	CLP TCL Volatiles	3 10		8/17/2009	2:05 PM
SD2	C2140	38855	Sediment	PCBs (AROCLORS)	3 13		8/17/2009	2:05 PM
SD2	MC2140	38855	Sediment	RCRA 8 METALS	3 14		8/17/2009	2:05 PM
SD3	MC2141	38855	Sediment	RCRA 8 METALS	3 21	FD of SD2	8/17/2009	2:20 PM
SD3	C2141	38855	Sediment	PCBs (AROCLORS)	3 20	FD of SD2	8/17/2009	2:20 PM
SD3	C2141	38855	Sediment	CLP TCL Semivolatiles	3 15	FD of SD2	8/17/2009	2:20 PM
SD3	C2141	38855	Sediment	CLP TCL Volatiles	3 16	FD of SD2	8/17/2009	2:20 PM
SD3	C2141	38855	Sediment	CLP TCL Volatiles	3 19	FD of SD2	8/17/2009	2:20 PM
SD3	C2141	38855	Sediment	CLP TCL Volatiles	3 18	FD of SD2	8/17/2009	2:20 PM
SD3	C2141	38855	Sediment	CLP TCL Volatiles	3 17	FD of SD2	8/17/2009	2:20 PM
SS1	MC2155	38855	Surface Soil	RCRA 8 METALS	3 96		8/19/2009	2:18 PM
SS1	C2155	38855	Surface Soil	CLP TCL Semivolatiles	3 95		8/19/2009	2:18 PM
SS2	C2156	38855	Surface Soil	CLP TCL Semivolatiles	3 97		8/18/2009	2:40 PM
SS2	MC2156	38855	Surface Soil	RCRA 8 METALS	3 98		8/18/2009	2:40 PM
SS3	MC2157	38855	Surface Soil	RCRA 8 METALS	3 100		8/18/2009	11:28 AM
SS3	C2157	38855	Surface Soil	CLP TCL Semivolatiles	3 99		8/18/2009	11:28 AM
SS4	MC2158	38855	Surface Soil	RCRA 8 METALS	3 102		8/18/2009	3:40 PM
SS4	C2158	38855	Surface Soil	CLP TCL Semivolatiles	3 101		8/18/2009	3:40 PM

**Table 1. Sample Collection Summary**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

Sample ID	CLP Number	Case Number	Matrix	Analysis	TAG Number	QC	Date	Time
SS5	C2159	38855	Surface Soil	CLP TCL Semivolatiles	3 103		8/17/2009	12:02 PM
SS5	MC2159	38855	Surface Soil	RCRA 8 METALS	3 104		8/17/2009	12:02 PM
SS6	C2160	38855	Surface Soil	CLP TCL Semivolatiles	3 105		8/17/2009	12:16 PM
SS6	MC2160	38855	Surface Soil	RCRA 8 METALS	3 106		8/17/2009	12:16 PM
SS7	C2161	38855	Surface Soil	CLP TCL Semivolatiles	3 107		8/17/2009	11:35 AM
SS7	MC2161	38855	Surface Soil	RCRA 8 METALS	3 108		8/17/2009	11:35 AM
SS8	C2162	38855	Surface Soil	CLP TCL Semivolatiles	3 109		8/17/2009	10:14 AM
SS8	MC2162	38855	Surface Soil	RCRA 8 METALS	3 110		8/17/2009	10:14 AM
SS9	MC2163	38855	Surface Soil	RCRA 8 METALS	3 112		8/17/2009	11:21 AM
SS9	C2163	38855	Surface Soil	CLP TCL Semivolatiles	3 111		8/17/2009	11:21 AM
SS10	C2164	38855	Surface Soil	CLP TCL Semivolatiles	3 113		8/18/2009	10:05 AM
SS10	MC2164	38855	Surface Soil	RCRA 8 METALS	3 114		8/18/2009	10:05 AM
SS11	MC2165	38855	Surface Soil	RCRA 8 METALS	3 116		8/18/2009	10:05 AM
SS11	C2165	38855	Surface Soil	CLP TCL Semivolatiles	3 115		8/18/2009	10:05 AM
SS12	MC2166	38855	Surface Soil	RCRA 8 METALS	3 118	FD of SS1	8/19/2009	2:20 PM
SS12	C2166	38855	Surface Soil	CLP TCL Semivolatiles	3 117	FD of SS1	8/19/2009	2:20 PM
SS15	MC2167	38855	Surface Soil	RCRA 8 METALS	3 120		8/17/2009	10:15 AM
SS15	C2167	38855	Surface Soil	CLP TCL Semivolatiles	3 119		8/17/2009	10:15 AM
SS16	C2168	38855	Surface Soil	CLP TCL Semivolatiles	3 121		8/17/2009	4:19 PM
SS16	MC2168	38855	Surface Soil	RCRA 8 METALS	3 122		8/17/2009	4:19 PM
SW1	C2170	38855	Surface Water	CLP TCL Volatiles	3 128	MS/MSD	8/17/2009	3:54 PM
SW1	C2170	38855	Surface Water	CLP TCL Volatiles	3 126	MS/MSD	8/17/2009	3:54 PM
SW1	C2170	38855	Surface Water	CLP TCL Volatiles	3 129	MS/MSD	8/17/2009	3:54 PM
SW1	C2170	38855	Surface Water	CLP TCL Volatiles	3 127	MS/MSD	8/17/2009	3:54 PM
SW1	C2170	38855	Surface Water	CLP TCL Volatiles	3 131	MS/MSD	8/17/2009	3:54 PM
SW1	C2170	38855	Surface Water	CLP TCL Volatiles	3 130	MS/MSD	8/17/2009	3:54 PM
SW1	MC2170	38855	Surface Water	RCRA 8 METALS	3 134	MS/MSD	8/17/2009	3:54 PM
SW1	MC2170	38855	Surface Water	RCRA 8 METALS	3 132	MS/MSD	8/17/2009	3:54 PM
SW1	MC2170	38855	Surface Water	RCRA 8 METALS	3 133	MS/MSD	8/17/2009	3:54 PM
SW1	C2170	38855	Surface Water	CLP TCL Semivolatiles	3 125	MS/MSD	8/17/2009	3:54 PM
SW1	C2170	38855	Surface Water	CLP TCL Semivolatiles	3 124	MS/MSD	8/17/2009	3:54 PM
SW1	C2170	38855	Surface Water	CLP TCL Semivolatiles	3 123	MS/MSD	8/17/2009	3:54 PM

**Table 1. Sample Collection Summary**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

Sample ID	CLP Number	Case Number	Matrix	Analysis	TAG Number	QC	Date	Time
SW2	MC2171	38855	Surface Water	RCRA 8 METALS	3 138		8/17/2009	1:55 PM
SW2	C2171	38855	Surface Water	CLP TCL Volatiles	3 136		8/17/2009	1:55 PM
SW2	C2171	38855	Surface Water	CLP TCL Volatiles	3 137		8/17/2009	1:55 PM
SW2	C2171	38855	Surface Water	CLP TCL Semivolatiles	3 135		8/17/2009	1:55 PM
SW3	C2172	38855	Surface Water	CLP TCL Semivolatiles	3 139	FD of SW2	8/17/2009	2:10 PM
SW3	C2172	38855	Surface Water	CLP TCL Volatiles	3 141	FD of SW2	8/17/2009	2:10 PM
SW3	C2172	38855	Surface Water	CLP TCL Volatiles	3 140	FD of SW2	8/17/2009	2:10 PM
SW3	MC2172	38855	Surface Water	RCRA 8 METALS	3 142	FD of SW2	8/17/2009	2:10 PM
SW4	C2173	38855	Surface Water	CLP TCL Volatiles	3 144	Trip Blank	8/17/2009	4:15 PM
SW4	C2173	38855	Surface Water	CLP TCL Volatiles	3 143	Trip Blank	8/17/2009	4:15 PM

**Table 2. Sample Location Summary**

<b>Sample ID</b>	<b>Matrix</b>	<b>Latitude</b>	<b>Longitude</b>
SS2	Surface Soil (0"-12")	39° 36' 32.3"	79° 57' 54.4"
SS5	Surface Soil (0"-12")	39° 36' 36.6"	79° 57' 44.8"
SS6	Surface Soil (0"-12")	39° 36' 37.5"	79° 57' 41.6"
SS7	Surface Soil (0"-12")	39° 36' 40.6"	79° 57' 44.4"
SS15	Surface Soil (0"-12")	39° 36' 22.9"	79° 57' 07.4"
SS16	Surface Soil (0"-12")	39° 36' 28.7"	79° 58' 07.2"
SS/SB1	Surface & Subsurface Soil (>12")	39° 36' 43.5"	79° 57' 40.8"
SS/SB3	Surface & Subsurface Soil (>12")	39° 36' 40.7"	79° 57' 51.6"
SS/SB4	Surface & Subsurface Soil (>12")	39° 36' 29.7"	79° 57' 56.3"
SS/SB8	Surface & Subsurface Soil (>12")	39° 36' 50.9"	79° 57' 33.6"
SS/SB9	Surface & Subsurface Soil (>12")	39° 36' 49.6"	79° 57' 39.4"
SS/SB10	Surface & Subsurface Soil (>12")	39° 36' 46.2"	79° 57' 45.0"
SS/SB11	Surface & Subsurface Soil (>12")	39° 36' 45.0"	79° 57' 49.3"
SW/SD1	Surface Water and Sediment	39° 36' 31.0"	79° 58' 04.1"
SW/SD2	Surface Water and Sediment	39° 36' 42.8"	79° 57' 46.0"

**Table 3. Sample Deviation Summary**

<b>Sample ID</b>	<b>Matrix</b>	<b>Deviation</b>	<b>Reason for Deviation</b>
GW1	Groundwater	Not Sampled	No Water
GW2	Groundwater	Not Sampled	No Water
GW3	Groundwater	Not Sampled	No Water
GW14	Groundwater	Not Sampled	No Water
SS/SB13	Surface and Subsurface Soil	Not Sampled	No Accessibility
SS/SB14	Surface and Subsurface Soil	Not Sampled	No Accessibility
SB2	Subsurface Soil	Not Sampled	Accessibility of drill rig
SB5	Subsurface Soil	Not Sampled	Accessibility of drill rig
SB6	Subsurface Soil	Not Sampled	Accessibility of drill rig
SB7	Subsurface Soil	Not Sampled	Accessibility of drill rig
SB12	Subsurface Soil	Not Sampled	Accessibility of drill rig
SB13	Subsurface Soil	Not Sampled	Accessibility of drill rig
SB14	Subsurface Soil	Not Sampled	Accessibility of drill rig
SW/SD1	Surfacewater/Sediment	Moved	Southwest to confluence of stream and reservoir
SW/SD2	Surfacewater/Sediment	Moved	Southwest to Cobun Creek south of reservoir

**Table 4A. Occurrence, Distribution and Selection of COC's**  
**Surface Soil (<2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (mg/Kg)														Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11	SS12 (FD of SS1)	SS15 BG	SS16 BG	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
<b>Inorganics</b>																							
Arsenic	1	4	6.4	3.4	384	4.3	0.66	6.7	0.71	3.5	7.1	8.3	3.1	7.9	8.8	14	14	0.66	384	13 <sup>2</sup>	YES	8.8	YES
Barium	20	40	84.4	67.8	468	64.1	61	60.1	12.1	222	38.1	33	36.7	125	57.8	14	14	12.1	468	15000 <sup>1</sup>	NO	125	YES
Cadmium	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND	790 <sup>1</sup>	NO	0.5	NO
Chromium	1	15	18.9	13.5	19.1	26.4	8.9	12.2	3.8	11.2	17.1	13.9	12.6	13.1	16.8	14	14	3.8	26.4	120000 <sup>1</sup>	NO	16.8	NO
Lead	1	13.2	18.5	13.8	122	12.9	6.7	43.3	3.3	21	10.8	9.2	12.2	20.8	21.6	14	14	3.3	122	400 <sup>1</sup>	NO	21.6	YES
Mercury	0.1	0.026	0.021	0.036	0.68	0.047	0.052	0.07	ND	0.044	0.056	0.027	0.023	0.04	ND	12	14	ND	0.68	23 <sup>1</sup>	NO	0.04	YES
Selenium	3.5	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	0.77	ND	2	14	ND	1.7	390	NO	0.77	NO
Silver	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND	390 <sup>1</sup>	NO	1	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III Residential Soil Risk Based Concentration, April 2009.

2 Published natural background concentration for arsenic in soil in West Virginia ranges from 5.9 to 13.0 mg/Kg.

BG Site specific background locations were SS15 and SS16, CRDLs or greatest BG concentration (whichever is greatest) used for HRS Observed Release determination.

**Table 4B. Occurrence, Distribution and Selection of COC's**  
**Surface Soil (<2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (mg/Kg)														Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11	SS12 (FD of SS1)	SS15 BG	SS16 BG	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
<b>Semi-Volatile Organic Compounds</b>																							
Benzaldehyde	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Phenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Bis(2-chloroethyl)ether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2-Chlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2-Methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2,2'-Oxybis(1-chloropropane)	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Acetophenone	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
4-Methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
N-Nitroso-di-n-propylamine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Hexachloroethane	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Nitrobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Isophorone	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2-Nitrophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2,4-Dimethylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Bis(2-chloroethoxy)methane	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2,4-Dichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Naphthalene	0.17	ND	ND	ND	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	14	ND	4.7	3.9 <sup>1</sup>	YES	0.17	YES
4-Chloroaniline	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Hexachlorobutadiene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Caprolactam	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
4-Chloro-3-methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2-Methylnaphthalene	0.17	ND	ND	ND	9.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	14	ND	9.6	310 <sup>1</sup>	NO	0.17	YES
Hexachlorocyclopentadiene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2,4,6-Trichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2,4,5-Trichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
1,1'-Biphenyl	0.17	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	14	ND	2.3	3,900 <sup>1</sup>	NO	0.17	YES
2-Chloronaphthalene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.33	NO
Dimethylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2,6-Dinitrotoluene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Acenaphthylene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
3-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.33	NO
Acenaphthene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2,4-Dinitrophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.33	NO
4-Nitrophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.33	NO
Dibenzofuran	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
2,4-Dinitrotoluene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Diethylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Fluorene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
4-Chlorophenyl-phenylether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
4-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.33	NO
4,6-Dinitro-2-methylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.33	NO
N-Nitrosodiphenylamine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
1,2,4,5-Tetrachlorobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO

**Table 4B. Occurrence, Distribution and Selection of COC's**  
**Surface Soil (<2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (mg/Kg)														Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8	SS9	SS10	SS11	SS12 (FD of SS1)	SS15 BG	SS16 BG	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
4-Bromophenyl-phenylether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Hexachlorobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Atrazine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Pentachlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.33	NO
Phenanthrene	0.17	ND	ND	ND	<b>1.8</b>	ND	0.070	<b>0.26</b>	ND	ND	0.031	0.085	ND	0.080	ND	6	14	ND	1.8	17,000 <sup>1</sup>	NO	0.080	<b>YES</b>
Anthracene	0.17	ND	ND	ND	ND	ND	0.010	0.043	ND	ND	ND	0.018	ND	ND	ND	3	14	ND	0.043	17,000 <sup>1</sup>	NO	0.17	NO
Carbazole	0.17	ND	ND	ND	ND	ND	ND	0.039	ND	ND	ND	ND	ND	ND	ND	1	14	ND	0.039	NA	NO	0.17	NO
Di-n-butylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Fluoranthene	0.17	ND	ND	ND	ND	ND	0.11	<b>0.53</b>	ND	ND	0.088	0.21	ND	0.17	ND	5	14	ND	0.53	2,300 <sup>1</sup>	NO	0.17	<b>YES</b>
Pyrene	0.17	ND	ND	ND	ND	ND	0.085	0.37	ND	ND	0.064	0.21	ND	0.15	ND	5	14	ND	0.37	1,700 <sup>1</sup>	NO	0.15	NO
Butylbenzylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
3,3'-Dichlorobenzidine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Benzo(a)anthracene	0.17	ND	ND	ND	ND	ND	0.056	<b>0.26</b>	ND	ND	0.051	0.13	ND	0.098	ND	5	14	ND	0.26	0.15 <sup>1</sup>	<b>YES</b>	0.098	NO
Chrysene	0.17	ND	ND	ND	ND	ND	0.056	0.24	ND	ND	0.049	0.12	ND	0.086	ND	5	14	ND	0.24	15 <sup>1</sup>	NO	0.086	NO
Bis(2-ethylhexyl)phthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.060	ND	ND	ND	1	14	ND	0.06	35 <sup>1</sup>	NO	0.17	NO
Di-n-octylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Benzo(b)fluoranthene	0.17	ND	ND	ND	ND	ND	0.032	<b>0.17</b>	ND	ND	0.026	0.084	ND	0.12	ND	5	14	ND	0.17	0.15 <sup>1</sup>	<b>YES</b>	0.12	NO
Benzo(k)fluoranthene	0.17	ND	ND	ND	ND	ND	0.051	<b>0.24</b>	ND	ND	0.041	0.086	ND	0.048	ND	5	14	ND	0.24	1.5 <sup>1</sup>	NO	0.048	<b>YES</b>
Benzo(a)pyrene	0.17	ND	ND	ND	ND	ND	ND	<b>0.18</b>	ND	ND	ND	<b>0.081</b>	ND	<b>0.080</b>	ND	3	14	ND	0.18	0.015 <sup>1</sup>	<b>YES</b>	0.08	NO
Indeno(1,2,3-cd)pyrene	0.17	ND	ND	ND	ND	ND	0.034	<b>0.21</b>	ND	ND	ND	0.062	ND	0.066	ND	4	14	ND	0.21	0.15 <sup>1</sup>	<b>YES</b>	0.066	<b>YES</b>
Dibenzo(a,h)anthracene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO
Benzo(g,h,i)perylene	0.17	ND	ND	ND	ND	ND	ND	0.13	ND	ND	0.025	0.068	ND	0.068	ND	4	14	ND	0.13	1,700 <sup>1</sup>	NO	0.068	NO
2,3,4,6-Tetrachlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	14	ND	ND		NO	0.17	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> USEPA Region III Residential Soil Risk Based Concentration, April 2009.

BG Site specific background locations were SS15 and SS16, CRDLs or greatest BG concentration (whichever is greatest) used for HRS Observed Release determination.

**Table 5A. Occurrence, Distribution and Selection of COC's**  
**Subsurface Soil (>2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (mg/Kg)								Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SB1	SB2 (FD of SB1)	SB3	SB4	SB8	SB9	SB10	SB11	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
<b>Inorganics</b>																	
Arsenic	1	2.7	2.9	2.9	28.2	1.6	1.1	14.7	4.1	8	8	1.1	28.2	13 <sup>2</sup>	YES	1.1	YES
Barium	20	41.1	34.1	40.4	145	10.3	50.9	144	135	8	8	10.3	145	1600 <sup>1</sup>	NO	10.3	YES
Cadmium	0.5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND	7.5 <sup>1</sup>	NO	0.5	NO
Chromium	1	10.6	10	19.1	13.1	4.4	6.7	19.1	31.1	8	8	4.4	31.1	2000000 <sup>1</sup>	NO	4.4	YES
Lead	1	8.1	7.5	12.2	19.2	2.8	10.2	29.8	54.4	8	8	2.8	54.4	270 <sup>1</sup>	NO	2.8	YES
Mercury	0.1	0.072	0.028	0.032	0.13	ND	0.05	0.092	ND	6	8	ND	0.13	2.1 <sup>1</sup>	NO	0.1	NO
Selenium	3.5	ND	ND	ND	ND	ND	ND	1.5	0.81	2	8	ND	1.5	5.2 <sup>1</sup>	NO	3.5	NO
Silver	1	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND	31 <sup>1</sup>	NO	1	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> Migration to Groundwater, Table 60-3B West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, July 2008.

<sup>2</sup> Published natural background concentration for arsenic in soil in West Virginia ranges from 5.9 to 13.0 mg/Kg.

B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

BG Site specific background location not collected, CRDLs or lowest observed on-site concentration (whichever is greatest) used for HRS Observed Release determination.

**Table 5B. Occurrence, Distribution and Selection of COC's**  
**Subsurface Soil (>2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (mg/Kg)								Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SB1	SB2 (FD of SB1)	SB3	SB4	SB8	SB9	SB10	SB11	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
<b>Semi-Volatile Organic Compounds</b>																	
Benzaldehyde	0.17	ND	0.25	0.31	ND	0.29	0.26	0.091	0.081	6	8	ND	0.31	3.2 <sup>1</sup>	NO	0.17	NO
Phenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Bis(2-chloroethyl)ether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2-Chlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2-Methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2,2'-Oxybis(1-chloropropane)	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Acetophenone	0.17	ND	ND	0.055	ND	0.084	0.077	ND	ND	3	8	ND	0.084	3.2 <sup>1</sup>	NO	0.17	NO
4-Methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
N-Nitroso-di-n-propylamine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Hexachloroethane	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Nitrobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Isophorone	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2-Nitrophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2,4-Dimethylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Bis(2-chloroethoxy)methane	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2,4-Dichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Naphthalene	0.17	ND	ND	ND	<b>4.9</b>	ND	ND	ND	ND	1	8	ND	4.9	0.32 <sup>1</sup>	<b>YES</b>	0.17	<b>YES</b>
4-Chloroaniline	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Hexachlorobutadiene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Caprolactam	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
4-Chloro-3-methylphenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2-Methylnaphthalene	0.17	ND	ND	ND	<b>13</b>	ND	ND	ND	ND	1	8	ND	13	NA <sup>1</sup>	NO	0.17	<b>YES</b>
Hexachlorocyclopentadiene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2,4,6-Trichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2,4,5-Trichlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
1,1'-Biphenyl	0.17	ND	ND	ND	<b>1.7</b>	ND	ND	ND	ND	1	8	ND	1.7	96 <sup>1</sup>	NO	0.17	<b>YES</b>
2-Chloronaphthalene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.33	NO
Dimethylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2,6-Dinitrotoluene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Acenaphthylene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
3-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.33	NO
Acenaphthene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2,4-Dinitrophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.33	NO
4-Nitrophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.33	NO
Dibenzofuran	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
2,4-Dinitrotoluene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Diethylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Fluorene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
4-Chlorophenyl-phenylether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO

**Table 5B. Occurrence, Distribution and Selection of COC's**  
**Subsurface Soil (>2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (mg/Kg)								Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SB1	SB2 (FD of SB1)	SB3	SB4	SB8	SB9	SB10	SB11	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
4-Nitroaniline	0.33	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.33	NO
4,6-Dinitro-2-methylphenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.33	NO
N-Nitrosodiphenylamine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
1,2,4,5-Tetrachlorobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
4-Bromophenyl-phenylether	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Hexachlorobenzene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Atrazine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Pentachlorophenol	0.33	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.33	NO
Phenanthrene	0.17	ND	ND	ND	2.3	ND	ND	ND	0.023	2	8	ND	2.3	1,500 <sup>1</sup>	NO	0.17	YES
Anthracene	0.17	ND	ND	ND	ND	ND	ND	ND	0.0052	1	8	ND	0.0052	1,700 <sup>1</sup>	NO	0.17	NO
Carbazole	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Di-n-butylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Fluoranthene	0.17	ND	ND	ND	ND	ND	ND	ND	0.065	1	8	ND	0.065	6,300 <sup>1</sup>	NO	0.17	NO
Pyrene	0.17	ND	ND	ND	ND	ND	ND	ND	0.054	1	8	ND	0.054	500 <sup>1</sup>	NO	0.17	NO
Butylbenzylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
3,3'-Dichlorobenzidine	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Benzo(a)anthracene	0.17	ND	ND	ND	ND	ND	ND	ND	0.033	1	8	ND	0.033	1.5 <sup>1</sup>	NO	0.17	NO
Chrysene	0.17	ND	ND	ND	ND	ND	ND	ND	0.034	1	8	ND	0.034	150 <sup>1</sup>	NO	0.17	NO
Bis(2-ethylhexyl)phthalate	0.17	ND	ND	ND	ND	ND	ND	ND	0.028	1	8	ND	0.028	3,600 <sup>1</sup>	NO	0.17	NO
Di-n-octylphthalate	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Benzo(b)fluoranthene	0.17	ND	ND	ND	ND	ND	ND	ND	0.028	1	8	ND	0.028	4.5 <sup>1</sup>	NO	0.17	NO
Benzo(k)fluoranthene	0.17	ND	ND	ND	ND	ND	ND	ND	0.023	1	8	ND	0.023	45 <sup>1</sup>	NO	0.17	NO
Benzo(a)pyrene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Indeno(1,2,3-cd)pyrene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Dibenzo(a,h)anthracene	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO
Benzo(g,h,i)perylene	0.17	ND	ND	ND	ND	ND	ND	ND	0.018	1	8	ND	0.018	120,000 <sup>1</sup>	NO	0.17	NO
2,3,4,6-Tetrachlorophenol	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	0.17	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> Migration to Groundwater, Table 60-3B West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, July 2008.

BG Site specific background location not collected, CRDLs used for HRS Observed Release determination.

**Table 5C. Occurrence, Distribution and Selection of COC's**  
**Subsurface Soil (>2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/Kg)								Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SB1	SB2 (FD of SB1)	SB3	SB4	SB8	SB9	SB10	SB11	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
<b>Volatile Organic Compounds</b>																	
Dichlorodifluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Chloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Vinyl chloride	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Bromomethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Chloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,1-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Acetone	10	B	B	B	ND	B	ND	9	B	1	8	ND	9	22000 <sup>1</sup>	NO	10	NO
Carbon disulfide	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Methyl acetate	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Methylene chloride	5	B	B	B	560	B	B	15	B	2	8	15	560	23 <sup>1</sup>	YES	5	YES
trans-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Methyl tert-butyl ether	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,1-Dichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
2-Butanone (MEK)	10	ND	ND	ND	ND	5.1	ND	ND	ND	1	8	ND	5.1	29000 <sup>1</sup>	NO	10	NO
Bromochloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Chloroform	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Cyclohexane	5	ND	ND	ND	28000	ND	ND	ND	ND	1	8	ND	28000	310000 <sup>1</sup>	NO	5	YES
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Benzene	5	ND	ND	ND	3100	ND	ND	ND	ND	1	8	ND	3100	34 <sup>1</sup>	YES	5	YES
1,2-Dichloroethane	5	ND	ND	ND	300	ND	ND	ND	ND	1	8	ND	300	28 <sup>1</sup>	YES	5	YES
1,4-Dioxane	100	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	100	NO
Trichloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Methylcyclohexane	5	ND	ND	ND	92000	ND	ND	ND	ND	1	8	ND	92000	760,000 <sup>1</sup>	NO	5	YES
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Bromodichloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
cis-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
4-Methyl-2-pentanone	10	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	10	NO
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
trans-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO

**Table 5C. Occurrence, Distribution and Selection of COC's**  
**Subsurface Soil (>2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/Kg)								Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SB1	SB2 (FD of SB1)	SB3	SB4	SB8	SB9	SB10	SB11	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Tetrachloroethene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
2-Hexanone	10	ND	ND	ND	18000	ND	ND	ND	ND	1	8	ND	18000	NA <sup>1</sup>	NO	10	YES
Dibromochloromethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,2-Dibromoethane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Ethylbenzene	5	ND	ND	ND	9000	ND	ND	ND	ND	1	8	ND	9000	8,900 <sup>1</sup>	YES	5	YES
o-Xylene	5	ND	ND	ND	11000	ND	ND	ND	ND	1	8	ND	11000	120,000 <sup>1</sup>	NO	5	YES
m,p-Xylene	5	ND	ND	ND	50000	ND	ND	ND	ND	1	8	ND	50000	120,000 <sup>1</sup>	NO	5	YES
Styrene	5	ND	ND	ND	460	ND	ND	ND	ND	1	8	ND	460	4,100 <sup>1</sup>	NO	5	YES
Bromoform	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
Isopropylbenzene (Cumene)	5	ND	ND	ND	3900	ND	ND	ND	ND	1	8	ND	3900	63,000 <sup>1</sup>	NO	5	YES
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	3400	ND	ND	ND	ND	1	8	ND	3400	0.4 <sup>1</sup>	YES	5	YES
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,2-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,2-Dibromo-3-chloropropane	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO
1,2,3-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	5	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> Migration to Groundwater, Table 60-3B West Virginia Voluntary Remediation and Redevelopment Act Guidance Manual, July 2008.

B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

BG Site specific background location not collected, CRDLs used for HRS Observed Release determination.

**Table 5D. Occurrence, Distribution and Selection of COC's**  
**Subsurface Soil (>2 feet bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (mg/Kg)								Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SB1	SB2 (FD of SB1)	SB3	SB4	SB8	SB9	SB10	SB11	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
<b>Polychlorinated Biphenyl Compounds</b>																	
Aroclor-1016	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO
Aroclor-1221	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO
Aroclor-1232	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO
Aroclor-1242	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO
Aroclor-1248	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO
Aroclor-1254	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO
Aroclor-1260	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO
Aroclor-1262	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO
Aroclor-1268	0.036	ND	ND	ND	ND	ND	ND	ND	ND	0	8	ND	ND		NO	NA	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

**Table 6A. Occurrence, Distribution and Selection of COC's**  
**Surface Water Sediment (0-2 inches bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (mg/Kg)			Frequency		Concentration		Action Level Concentration (mg/Kg)	COC ?	Background Concentration (mg/Kg)	HRS Observed Release?
		SD1 Cobun Creek Upstream of Reservoir	SD2 Within Cobun Creek Reservoir	SD3 (FD of SD2)	Detects	Samples	Min (mg/kg)	Max (mg/kg)				
<b>Inorganics</b>												
Arsenic	1	9.2	4.4	2.6	3	3	2.6	9.2	13 <sup>2</sup>	NO	2.6	YES
Barium	20	207	40.3	27.1	3	3	27.1	207	NA <sup>1</sup>	NO	27.1	YES
Cadmium	0.5	ND	ND	ND	0	3	ND	ND	0.99 <sup>1</sup>	NO	0.5	NO
Chromium	1	19.6	11	7.4	3	3	7.4	19.6	43.4 <sup>1</sup>	NO	7.4	NO
Lead	1	28.5	10.4	8	3	3	8	28.5	35.8 <sup>1</sup>	NO	8	YES
Mercury	0.1	0.18	ND	ND	1	3	ND	0.18	0.44 <sup>3</sup>	NO	0.44	NO
Selenium	3.5	ND	ND	ND	0	3	ND	ND	2 <sup>1</sup>	NO	3.5	NO
Silver	1	ND	ND	ND	0	3	ND	ND	1 <sup>1</sup>	NO	1	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region 3 Risk Assessment Freshwater Sediment Screening Benchmarks.

2 Published natural background concentration for arsenic in soil in West Virginia ranges from 5.9 to 13.0 mg/Kg.

3 Published natural background concentration for mercury in soil in West Virginia ranges from 0.02 to 0.44 mg/Kg.

B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

BG Site specific background location not collected, CRDLs or lowest observed on-site concentration (whichever is greatest) used for HRS Observed Release determination.

**Table 6B. Occurrence, Distribution and Selection of COC's**  
**Surface Water Sediment (0-2 inches bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/Kg)			Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SD1 Cobun Creek Upstream of Reservoir	SD2 Within Cobun Creek Reservoir	SD3 (FD of SD2)	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
<b>Base Neutral Acid Compounds</b>												
Benzaldehyde	170	310	130	330	3	3	130	330	NA <sup>1</sup>	NO	170	NO
Phenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Bis(2-chloroethyl)ether	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2-Chlorophenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2-Methylphenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2,2'-Oxybis(1-chloropropane)	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Acetophenone	170	170	ND	ND	1	3	ND	170	NA <sup>1</sup>	NO	170	NO
4-Methylphenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
N-Nitroso-di-n-propylamine	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Hexachloroethane	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Nitrobenzene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Isophorone	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2-Nitrophenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2,4-Dimethylphenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Bis(2-chloroethoxy)methane	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2,4-Dichlorophenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Naphthalene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
4-Chloroaniline	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Hexachlorobutadiene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Caprolactam	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
4-Chloro-3-methylphenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2-Methylnaphthalene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Hexachlorocyclopentadiene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2,4,6-Trichlorophenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2,4,5-Trichlorophenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
1,1'-Biphenyl	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2-Chloronaphthalene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2-Nitroaniline	330	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	330	NO
Dimethylphthalate	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2,6-Dinitrotoluene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Acenaphthylene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
3-Nitroaniline	330	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	330	NO
Acenaphthene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2,4-Dinitrophenol	330	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	330	NO
4-Nitrophenol	330	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	330	NO
Dibenzofuran	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
2,4-Dinitrotoluene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Diethylphthalate	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Fluorene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
4-Chlorophenyl-phenylether	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
4-Nitroaniline	330	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	330	NO

**Table 6B. Occurrence, Distribution and Selection of COC's**  
**Surface Water Sediment (0-2 inches bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/Kg)			Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SD1 Cobun Creek Upstream of Reservoir	SD2 Within Cobun Creek Reservoir	SD3 (FD of SD2)	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
4,6-Dinitro-2-methylphenol	330	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	330	NO
N-Nitrosodiphenylamine	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
1,2,4,5-Tetrachlorobenzene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
4-Bromophenyl-phenylether	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Hexachlorobenzene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Atrazine	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Pentachlorophenol	330	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	330	NO
Phenanthrene	170	480	ND	ND	1	3	ND	480	204 <sup>1</sup>	YES	170	NO
Anthracene	170	49	ND	ND	1	3	ND	49	57.2 <sup>1</sup>	NO	170	NO
Carbazole	170	69	ND	ND	1	3	ND	69	NA <sup>1</sup>	NO	170	NO
Di-n-butylphthalate	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Fluoranthene	170	1200	ND	ND	1	3	ND	1200	423 <sup>1</sup>	YES	170	YES
Pyrene	170	910	ND	ND	1	3	ND	910	195 <sup>1</sup>	YES	170	YES
Butylbenzylphthalate	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
3,3'-Dichlorobenzidine	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Benzo(a)anthracene	170	460	ND	ND	1	3	ND	460	108 <sup>1</sup>	YES	170	NO
Chrysene	170	540	ND	ND	1	3	ND	540	166 <sup>1</sup>	YES	170	YES
Bis(2-ethylhexyl)phthalate	170	140	ND	ND	1	3	ND	140	180 <sup>1</sup>	NO	170	NO
Di-n-octylphthalate	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Benzo(b)fluoranthene	170	510	ND	ND	1	3	ND	510	27.2 <sup>1</sup>	YES	170	YES
Benzo(k)fluoranthene	170	530	ND	ND	1	3	ND	530	27.2 <sup>1</sup>	YES	170	YES
Benzo(a)pyrene	170	500	ND	ND	1	3	ND	500	150 <sup>1</sup>	YES	170	NO
Indeno(1,2,3-cd)pyrene	170	540	ND	ND	1	3	ND	540	17 <sup>1</sup>	YES	170	YES
Dibenzo(a,h)anthracene	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO
Benzo(g,h,i)perylene	170	380	ND	ND	1	3	ND	380	170 <sup>1</sup>	YES	170	NO
2,3,4,6-Tetrachlorophenol	170	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	170	NO

**NOTES:**

- ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).
- NA Not Applicable or available.
- CRDL Contract Required Detection Limit
- <sup>1</sup> USEPA Region 3 Risk Assessment Freshwater Sediment Screening Benchmarks.
- BG Site specific background location not collected, CRDLs used for HRS Observed Release determination.

**Table 6C. Occurrence, Distribution and Selection of COC's**  
**Surface Water Sediment (0-2 inches bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/Kg)			Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SD1 Cobun Creek Upstream of Reservoir	SD2 Within Cobun Creek Reservoir	SD3 (FD of SD2)	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
<b>Volatile Organic Compounds</b>												
Dichlorodifluoromethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Chloromethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Vinyl chloride	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Bromomethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Chloroethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Trichlorofluoromethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,1-Dichloroethene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,1,2-Trichloro-1,2,2-trifluoroethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Acetone	10	B	ND	B	0	3	ND	ND	<sup>1</sup>	NO	10	NO
Carbon disulfide	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Methyl acetate	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Methylene chloride	5	B	B	B	0	3	0	ND	<sup>1</sup>	NO	5	NO
trans-1,2-Dichloroethene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Methyl tert-butyl ether	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,1-Dichloroethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
cis-1,2-Dichloroethene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
2-Butanone	10	5.2	ND	ND	1	3	ND	5.2	NA <sup>1</sup>	NO	10	NO
Bromochloromethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Chloroform	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,1,1-Trichloroethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Cyclohexane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Carbon tetrachloride	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Benzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,2-Dichloroethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,4-Dioxane	100	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	100	NO
Trichloroethene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Methylcyclohexane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,2-Dichloropropane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Bromodichloromethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
cis-1,3-Dichloropropene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
4-Methyl-2-pentanone	10	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	10	NO
Toluene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO

**Table 6C. Occurrence, Distribution and Selection of COC's**  
**Surface Water Sediment (0-2 inches bgs)**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/Kg)			Frequency		Concentration		Action Level Concentration (ug/Kg)	COC ?	Background Concentration (ug/Kg)	HRS Observed Release?
		SD1 Cobun Creek Upstream of Reservoir	SD2 Within Cobun Creek Reservoir	SD3 (FD of SD2)	Detects	Samples	Min (ug/kg)	Max (ug/kg)				
trans-1,3-Dichloropropene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,1,2-Trichloroethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Tetrachloroethene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
2-Hexanone	10	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	10	NO
Dibromochloromethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,2-Dibromoethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Chlorobenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Ethylbenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
o-Xylene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
m,p-Xylene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Styrene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Bromoform	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Isopropylbenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,1,2,2-Tetrachloroethane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,3-Dichlorobenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,4-Dichlorobenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,2-Dichlorobenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,2-Dibromo-3-chloropropane	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,2,4-Trichlorobenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,2,3-Trichlorobenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> USEPA Region 3 Risk Assessment Freshwater Sediment Screening Benchmarks.

BG Site specific background location not collected, CRDLs used for HRS Observed Release determination.

**Table 7A. Occurrence, Distribution and Selection of COC's  
Surface Water  
White Park CERCLIS Site  
Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/L)			Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW1 Cobun Creek Upstream of Reservoir	SW2 Within Cobun Creek Reservoir	SW3 (FD of SW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
<b>Inorganics</b>												
Arsenic	10	ND	ND	ND	0	3	ND	ND	0.018 <sup>2</sup>	NO	10	NO
Barium	200	57.6	83.5	82.9	3	3	57.6	83.5	4 <sup>2</sup>	YES	200	NO
Cadmium	5	ND	ND	ND	0	3	ND	ND	0.25 <sup>1</sup>	NO	5	NO
Chromium	10	ND	ND	ND	0	3	ND	ND	74 <sup>1</sup>	NO	10	NO
Lead	10	ND	ND	ND	0	3	ND	ND	2.5 <sup>1</sup>	NO	10	NO
Mercury	0.2	ND	ND	ND	0	3	ND	ND	0.026 <sup>2</sup>	NO	0.2	NO
Selenium	35	ND	ND	ND	0	3	ND	ND	1 <sup>2</sup>	NO	35	NO
Silver	10	ND	ND	ND	0	3	ND	ND	3.2 <sup>2</sup>	NO	10	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> USEPA National Recommended Water Quality Criteria (NRWQC), freshwater CCC (chronic) concentrations or Human Health for the consumption of water + organisms, whichever is most stringent, November 2002.

<sup>2</sup> USEPA Region 3 BTAG Risk Assessment Freshwater Screening Benchmarks, as of Septemeber 2009.

B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

BG Site specific background location not collected, CRDLs used for HRS Observed Release determination.

**Table 7B. Occurrence, Distribution and Selection of COC's**  
**Surface Water**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/L)			Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW1 Cobun Creek Upstream of Reservoir	SW2 Within Cobun Creek Reservoir	SW3 (FD of SW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
<b>Semi-Volatile Organic Compounds</b>												
Benzaldehyde	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Phenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Bis(2-chloroethyl)ether	5	ND	ND	ND	0	3	ND	ND	4	NO	5	NO
2-Chlorophenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2-Methylphenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2,2'-Oxybis(1-chloropropane)	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Acetophenone	5	ND	ND	ND	0	3	ND	ND	2	NO	5	NO
4-Methylphenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
N-Nitroso-di-n-propylamine	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Hexachloroethane	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Nitrobenzene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Isophorone	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2-Nitrophenol	5	ND	ND	ND	0	3	ND	ND	2	NO	5	NO
2,4-Dimethylphenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Bis(2-chloroethoxy)methane	5	ND	ND	ND	0	3	ND	ND	5	NO	5	NO
2,4-Dichlorophenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Naphthalene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
4-Chloroaniline	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Hexachlorobutadiene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Caprolactam	80	ND	ND	ND	0	3	ND	ND	2	NO	80	NO
4-Chloro-3-methylphenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2-Methylnaphthalene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Hexachlorocyclopentadiene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2,4,6-Trichlorophenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2,4,5-Trichlorophenol	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
1,1'-Biphenyl	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2-Chloronaphthalene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2-Nitroaniline	10	ND	ND	ND	0	3	ND	ND	1	NO	10	NO
Dimethylphthalate	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2,6-Dinitrotoluene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Acenaphthylene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
3-Nitroaniline	10	ND	ND	ND	0	3	ND	ND	1	NO	10	NO
Acenaphthene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2,4-Dinitrophenol	10	ND	ND	ND	0	3	ND	ND	1	NO	10	NO
4-Nitrophenol	10	ND	ND	ND	0	3	ND	ND	1	NO	10	NO
Dibenzofuran	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
2,4-Dinitrotoluene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Diethylphthalate	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
Fluorene	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO
4-Chlorophenyl-phenylether	5	ND	ND	ND	0	3	ND	ND	1	NO	5	NO

**Table 7B. Occurrence, Distribution and Selection of COC's**  
**Surface Water**  
**White Park CERCLIS Site**  
**Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/L)			Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW1 Cobun Creek Upstream of Reservoir	SW2 Within Cobun Creek Reservoir	SW3 (FD of SW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
4-Nitroaniline	10	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	10	NO
4,6-Dinitro-2-methylphenol	10	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	10	NO
N-Nitrosodiphenylamine	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
1,2,4,5-Tetrachlorobenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
4-Bromophenyl-phenylether	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Hexachlorobenzene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Atrazine	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Pentachlorophenol	10	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	10	NO
Phenanthrene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Anthracene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Carbazole	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Di-n-butylphthalate	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Fluoranthene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Pyrene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Butylbenzylphthalate	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
3,3'-Dichlorobenzidine	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Benzo(a)anthracene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Chrysene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Bis(2-ethylhexyl)phthalate	5	1.4	6.1	ND	2	3	ND	6.1	16 <sup>1</sup>	NO	5	NO
Di-n-octylphthalate	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Benzo(b)fluoranthene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Benzo(k)fluoranthene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Benzo(a)pyrene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Indeno(1,2,3-cd)pyrene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Dibenzo(a,h)anthracene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
Benzo(g,h,i)perylene	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO
2,3,4,6-Tetrachlorophenol	5	ND	ND	ND	0	3	ND	ND	<sup>1</sup>	NO	5	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> USEPA Region 3 BTAG Risk Assessment Freshwater Screening Benchmarks, as of Septemeber 2009.

BG Site specific background location not collected, CRDLs used for HRS Observed Release determination.

**Table 7C. Occurrence, Distribution and Selection of COC's  
Surface Water  
White Park CERCLIS Site  
Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/L)			Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW1 Cobun Creek Upstream of Reservoir	SW2 Within Cobun Creek Reservoir	SW3 (FD of SW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
<b>Volatile Organic Compounds</b>												
Dichlorodifluoromethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Chloromethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Vinyl chloride	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Bromomethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Chloroethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Trichlorofluoromethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,1-Dichloroethene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Acetone	5	ND	B	B	0	3	ND	ND		NO	5	NO
Carbon disulfide	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Methyl acetate	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Methylene chloride	0.5	B	B	B	0	3	0	ND		NO	0.5	NO
trans-1,2-Dichloroethene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Methyl tert-butyl ether	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,1-Dichloroethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
cis-1,2-Dichloroethene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
2-Butanone	5	ND	ND	ND	0	3	ND	ND		NO	5	NO
Bromochloromethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Chloroform	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,1,1-Trichloroethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Cyclohexane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Carbon tetrachloride	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Benzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,2-Dichloroethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Trichloroethene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Methylcyclohexane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,2-Dichloropropane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Bromodichloromethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
cis-1,3-Dichloropropene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
4-Methyl-2-pentanone	5	ND	ND	ND	0	3	ND	ND		NO	5	NO
Toluene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
trans-1,3-Dichloropropene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,1,2-Trichloroethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO

**Table 7C. Occurrence, Distribution and Selection of COC's  
Surface Water  
White Park CERCLIS Site  
Morgantown, Monongalia County, West Virginia**

COPC	CRDL	Concentration (ug/L)			Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		SW1 Cobun Creek Upstream of Reservoir	SW2 Within Cobun Creek Reservoir	SW3 (FD of SW2)	Detects	Samples	Min (ug/L)	Max (ug/L)				
Tetrachloroethene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
2-Hexanone	5	ND	ND	ND	0	3	ND	ND		NO	5	NO
Dibromochloromethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,2-Dibromoethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Chlorobenzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Ethylbenzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
o-Xylene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
m,p-Xylene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Styrene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Bromoform	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
Isopropylbenzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,1,2,2-Tetrachloroethane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,3-Dichlorobenzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,4-Dichlorobenzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,2-Dichlorobenzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,2-Dibromo-3-chloropropane	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,2,4-Trichlorobenzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO
1,2,3-Trichlorobenzene	0.5	ND	ND	ND	0	3	ND	ND		NO	0.5	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA National Recommended Water Quality Criteria (NRWQC), freshwater CCC (chronic) concentrations or Human Health for the consumption of water + organisms, whichever is most stringent, November 2002.

2 USEPA Region 3 BTAG Risk Assessment Freshwater Screening Benchmarks, as of Septemeber 2009.

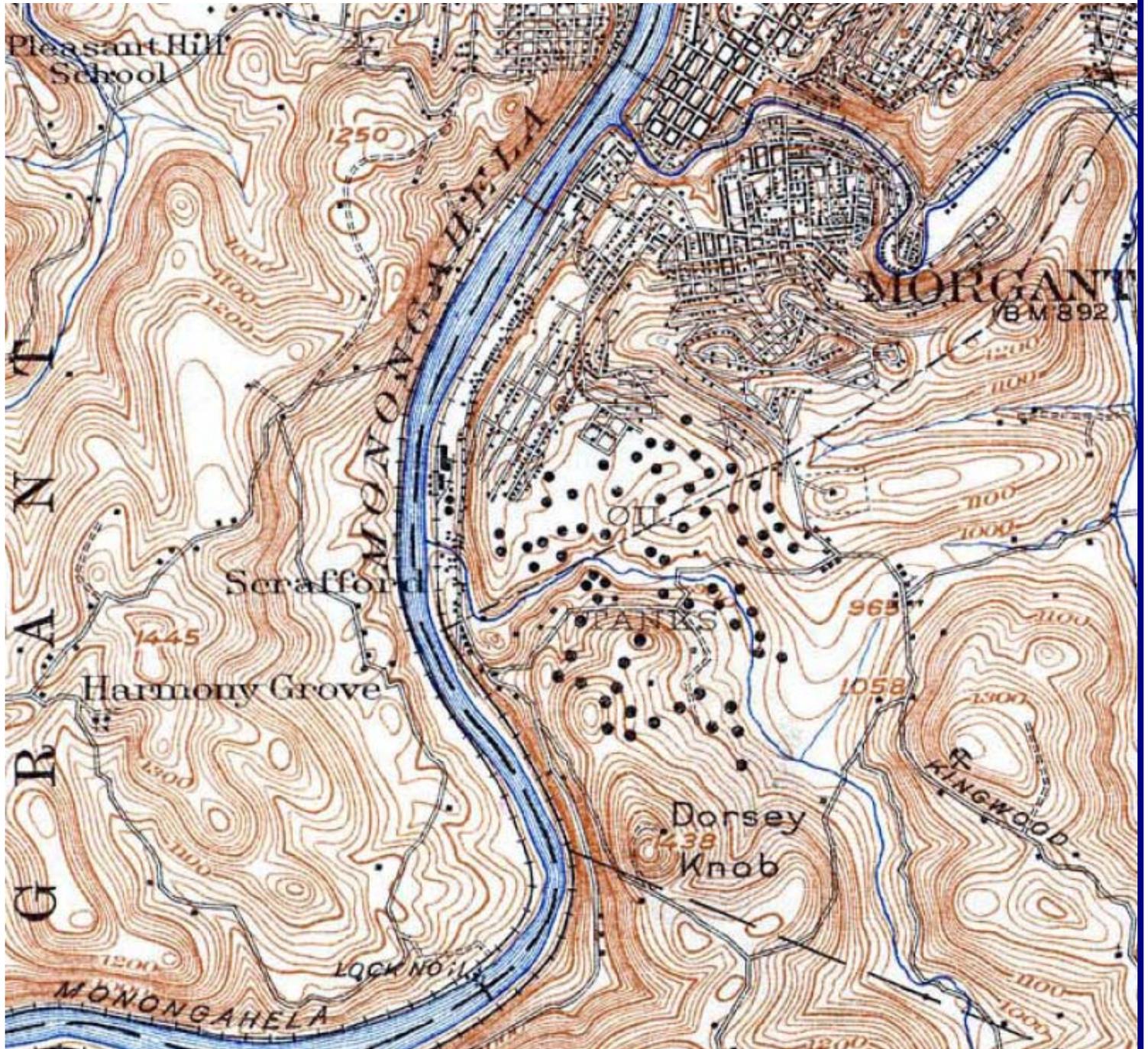
B Result estimated due to laboratory contamination.

R Result rejected according to data validation guidelines.

BG Site specific background location not collected, CRDLs used for HRS Observed Release determination.

## **Appendix 1**

### **Historical Maps and Photographs**



**TRIAD**  
TRIAD ENGINEERING, INC.

**1933 TOPOGRAPHIC MAP**  
White Park, Morgantown, WV  
CERCLIS WVD988766168



**TRIAD**  
TRIAD ENGINEERING, INC.

**1938 AERIAL PHOTOGRAPH**  
White Park, Morgantown, WV  
CERCLIS WVD988766168



**TRIAD**  
TRIAD ENGINEERING, INC.

1955 AERIAL PHOTOGRAPH  
White Park, Morgantown, WV  
CERCLIS WVD988766168



**TRIAD**  
TRIAD ENGINEERING, INC.

**1967 AERIAL PHOTOGRAPH**  
White Park, Morgantown, WV  
CERCLIS WVD988766168



**TRIAD**  
TRIAD ENGINEERING, INC.

**1988 AERIAL PHOTOGRAPH**  
White Park, Morgantown, WV  
CERCLIS WVD988766168



**TRIAD**  
TRIAD ENGINEERING, INC.

1997 AERIAL PHOTOGRAPH  
White Park, Morgantown, WV  
CERCLIS WVD988766168





1927 Sanborn Fire Insurance Map showing portion of tank farm.

39

W. V. A. . 50\*

91

39

APR. 1927  
MORGANTOWN  
W. VA.

N O E X P O S U R E

N O E X P O S U R E

N O E X P O S U R E

N O E X P O S U R E

37

37

SABRATON

689

WEST VIRGINIA WOOD PRODUCTS CORP.  
MANUFACTURING WOOD GLASS, BEST STEAM & STEAK PUMPS  
THEY ALSO MANUFACTURE WOODEN SHIP CHAINS DISTRIBUTED

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DUST COLLECTOR  
PL & PL. CONC. CUSTOM  
WORKS

FINISHED PRODUCTS W. HO.  
STEAM DRY KILN

MISSISSIPPI GLASS CO.  
NOT IN OPERATION  
ALL GLASS EITHER REMOVED OR  
VACANT & UNLABELED

WARE HO.

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W. G.

TILE CONSTRUCTION  
PLAYSTYRE  
WOOD WARE & WOOD TRUSS RP

WAREHOUSE 1ST  
LUMBER STORAGE 2ND  
BEST STEAM

AUTO DEP.

NO. 196  
EUREKA PIPE LINE CO.  
OIL TANK

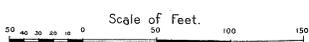
MORGANTOWN WATER CO.  
BEST STORES - LIGHTS & POWER - ILLC. - HYDOS  
& HOSE - 21 S. BOWEN  
PUMPS -  
1. 100 LEVEL CENTRIFUGAL (CAPPLY 2,100,000 GALS  
PER 24 HRS)  
2. 500 LEVEL CENTRIFUGAL (CAPPLY 1,000,000 GALS  
PER 24 HRS)  
3. MOUNTAIN VIEW ILLC. PUMP - CAPPLY  
1,000,000 GALS PER 24 HRS

Monongahela River

Monongahela River

UNIVERSITY AV. (BRIDGE)

CULLEN ST.



Scale of Feet.

Copyright 1927 by the Sanborn Map Co.

N O E X P O S U R E

**Appendix 2**  
**RAS Request**

# U.S. EPA Region III Analytical Request Form

ASQAB USE ONLY		
<b>RAS#</b>		<b>Analytical TAT</b>
<b>DAS#</b>		
<b>NSF#</b>		

Date: 7/30/2009		Site Activity: Site Inspection Reassessment	
Site Name: White Park		Street Address: Mississippi Street	
City: Morgantown	State: WV	Latitude: 39° 36' 41.70"	Longitude: 79° 57' 55.25"
Program: Superfund	Acct. #: 2009 T 03W 302DD2C 03RXSI00	CERCLIS #: WVD988766168	
Site ID:	Spill ID:	Operable Unit: 0	
Site Specific QA Plan Submitted: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Title: Sampling and Analysis Plan, White Park, Rev. 0 July 2009 Date Approved: July 30, 2009			
EPA Project Leader: James Hargett	Phone#: 215-814-3305	Cell Phone #:	E-mail: hargett.james@epa.gov
Request Preparer: Lydia Work	Phone#: 304-296-2562	Cell Phone #: 304-552-1442	E-mail: lwork@triadeng.com
Site Leader: Pam Hayes, WVDEP	Phone#: 304-926-0499	Cell Phone #:	E-mail: Pamela.D.Hayes@wv.gov
Contractor: Triad Engineering, Inc.		EPA CO/PO:	
#Samples 36	Matrix: Soil	Parameter: BNA	Method: SOM01.2.
#Samples 36	Matrix: Soil	Parameter: RCRA Metals	Method: ILM05.4, ICP-AES/CVAA
#Samples 17	Matrix: Soil	Parameter: PCB as Aroclors	Method: SOM01.2
#Samples 17	Matrix: Soil	Parameter: VOC, Low	Method: SOM01.2, LOW CONC.
#Samples 6	Matrix: Sediment	Parameter: RCRA Metals	Method: ILM05.4, ICP-AES/CVAA
#Samples 6	Matrix: Sediment	Parameter: PCB as Aroclors	Method: SOM01.2
#Samples 6	Matrix: Sediment	Parameter: BNA	Method: SOM01.2
#Samples 6	Matrix: Sediment		Method: SOM01.2, LOW CONC.
#Samples 7	Matrix: Water, non-potable	Parameter: BNA	Method: SOM01.2
#Samples 7	Matrix: Water, non-potable	Parameter: RCRA Metals, Dissolved	Method: ILM05.4, ICP-AES/CVAA
#Samples 7	Matrix: Water, non-potable	Parameter: VOCs, trace	Method: SOM01.1, TRACE
#Samples 6	Matrix: Surface Water	Parameter: RCRA Metals	Method: ILM05.4, ICP-AES/CVAA
#Samples 6	Matrix: Surface Water	Parameter: BNA	Method: SOM01.2
#Samples 6	Matrix: Surface Water	Parameter: VOCs, trace	Method: SOM01.1, TRACE
Ship Date From: 8/17/2009	Ship Date To: 8/22/2009	Org. Validation Level M2	Inorg. Validation Level IM1
Unvalidated Data Requested: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, TAT Needed: <input type="checkbox"/> 24hrs <input type="checkbox"/> 48hrs <input type="checkbox"/> 72hrs <input type="checkbox"/> 7days <input type="checkbox"/> Other (Specify)			
Electronic Data Deliverables Required: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (EDDs will be provided in Region 3 EDD Format)			
Special Instructions:			

**Appendix 3**  
**RAS Assignment**



SOM01.2	23 SOIL ARO	7
SOM01.2	13 WATER TVOA,SVOA	7
SOM01.2	23 SOIL VOA,SVOA	7
SOM01.2	19 SOIL SVOA	7

Key					
ILM	Ag - Silver	Cd - Cadmium	filtered - samples filtered in the field	Na - Sodium	V - Vanadium
	Al - Aluminum	CN - Cyanide	Hg - Mercury	Ni - Nickel	Zn - Zinc
	As - Arsenic	Co - Cobalt	ICP Metals - TAL Metals without Hg	Pb - Lead	
	Ba - Barium	Cr - Chromium	K - Potassium	Sb - Antimony	
	Be - Beryllium	Cu - Copper	Mg - Magnesium	Se - Selenium	
	Ca - Calcium	Fe - Iron	Mn - Manganese	Tl - Thallium	
OLM/OLC	BNA - Semivolatiles	PEST - Pesticides/PCBs	VOA - Volatiles		
SOM	ARO - Aroclors	PEST - Pesticides	SVOA - Semivolatiles	SVSIM - SIM SVOA	TVOA - Trace Volatiles
	TVSIM - SIM TVOA	VOA - Volatiles			
ALL	PR - Preliminary Results				

## **Appendix 4**

### **Sample Container Certificates of Analysis**



# PRECLEANED CERTIFIED™

## Certificate of Compliance

The enclosed containers have been chemically cleaned by using the specified USEPA cleaning procedures for low level chemical analysis. ESS containers meet and exceed the required detection limits established by the USEPA in SPECIFICATIONS AND GUIDANCE FOR CONTAMINANT-FREE SAMPLE CONTAINERS.

### EXTRACTABLE ORGANIC COMPOUNDS

Analyte	Quantitation Limit (ug/L)					
Pesticides / PCBs	Alpha-BHC	< 0.01	Aroclor-1232	< 0.20	Hexachlorobutadiene	< 5
	Beta-BHC	< 0.01	Aroclor-1242	< 0.20	4-Chloro-3-Methylphenol	< 5
	Delta-BHC	< 0.01	Aroclor-1248	< 0.20	2-Methylnaphthalene	< 5
	Gamma-BHC (Lindane)	< 0.01	Aroclor-1254	< 0.20	Hexachlorocyclopentadiene	< 5
	Heptachlor	< 0.01	Aroclor-1260	< 0.20	2,4,6-Trichlorophenol	< 5
	Aldrin	< 0.01	Aroclor-1262	< 0.20	2,4,5-Trichlorophenol	< 20
	Heptachlor Epoxide	< 0.01	Aroclor-1268	< 0.20	1,2-Diphenylhydrazene	< 5
	Endosulfan I	< 0.01			Carbazole	< 5
	Dieldrin	< 0.02	Semivolatiles		2-Chloronaphthalene	< 5
	4,4'-DDE	< 0.02	Phenol	< 5	2-Nitroaniline	< 20
	Endrin	< 0.02	bis-(2-Chloroethyl) ether	< 5	Dimethylphthalate	< 5
	Endosulfan II	< 0.02	bis-(2-Chloroisopropyl) ether	< 5	Acenaphthylene	< 5
	4,4'-DDD	< 0.02	2-Chlorophenol	< 5	2,6-Dinitrotoluene	< 5
	Endosulfan Sulfate	< 0.02	2-Methylphenol	< 5	3-Nitroaniline	< 20
	4,4'-DDT	< 0.02	2,2'-Oxybis-(1-Chloropropane)	< 5	Acenaphthene	< 5
	Methoxychlor	< 0.10	4-Methylphenol	< 5	2,4-Dinitrophenol	< 20
	Endrin Ketone	< 0.02	N-Nitroso-di-n-propylamine	< 5	4-Nitrophenol	< 20
	Endrin Aldehyde	< 0.02	Hexachloroethane	< 5	Dibenzofuran	< 5
	Alpha-Chlordane	< 0.01	Nitrobenzene	< 5	2,4-Dinitrotoluene	< 5
	Gamma-Chlordane	< 0.01	Isophorone	< 5	Diethylphthalate	< 5
Toxaphene	< 1.0	2-Nitrophenol	< 5	4-Chlorophenyl-Phenylether	< 5	
Aroclor-1016	< 0.20	2,4-Dimethylphenol	< 5	Flourene	< 5	
Aroclor-1221	< 0.20	bis-(2-Chloroethoxy) methane	< 5	4-Nitroaniline	< 20	
		2,4-Dichlorophenol	< 5	4,6-Dinitro-2-Methylphenol	< 20	
		1,2,4-Trichlorobenzene	< 5	N-Nitrosodiphenylamine	< 5	
		Naphthalene	< 5	N-Nitrosodimethylamine	< 5	
		4-Chloroaniline	< 5			
				4-Bromophenyl-Phenylether	< 5	
				Hexachlorobenzene	< 5	
				Pentachlorophenol	< 20	
				Phenanthrene	< 5	
				Anthracene	< 5	
				Di-n-Butylphthalate	< 5	
				Fluoroanthene	< 5	
				Pyrene	< 5	
				Butylbenzylphthalate	< 5	
				1,2'-Dichlorobenzene	< 5	
				1,3'-Dichlorobenzene	< 5	
				1,4'-Dichlorobenzene	< 5	
				3,3'-Dichlorobenzidine	< 5	
				Benzo[a]anthracene	< 5	
				Chrysene	< 5	
				bis-(2-Ethylhexyl) Phthalate	< 5	
				Di-n-Octylphthalate	< 5	
				Benzo[b]fluoranthene	< 5	
				Benzo[k]fluoranthene	< 5	
				Benzo[a]pyrene	< 5	
				Indeno[1,2,3-cd]pyrene	< 5	
				Dibenzo[a,h]anthracene	< 5	
				Benzo[g,h,i]perylene	< 5	
				Benzoic Acid	< 5	
				Benzyl Alcohol	< 5	

### PURGEABLE VOLATILE ORGANIC COMPOUNDS

Analyte	Quantitation Limit (ug/L)					
	Acetone	< 5	2-Chlorotoluene	< 1	1,3-Dichloropropane	< 1
	Benzene	< 1	4-Chlorotoluene	< 1	2,2-Dichloropropane	< 1
	Bromoform	< 1	2,4-Chlorotoluene	< 1	1,1-Dichloropropene	< 1
	Bromobenzene	< 1	Chloroform	< 1	cis-1,3-Dichloropropene	< 1
	Bromochloromethane	< 1	Dibromomethane	< 1	trans-1,3-Dichloropropene	< 1
	Bromodichloromethane	< 1	1,2-Dibro 3-Chloropropane	< 1	Ethylbenzene	< 1
	Bromomethane	< 1	Dibromochloromethane	< 1	2-Hexanone	< 5
	z-Butylbenzene	< 5	1,2-Dibromoethane (EDB)	< 1	Hexachlorobutadiene	< 1
	n-Butylbenzene	< 1	1,2-Dichlorobenzene	< 1	Isopropylbenzene	< 1
	sec-Butylbenzene	< 1	1,3-Dichlorobenzene	< 1	4-Isopropyltoluene	< 1
	tert-Butylbenzene	< 1	1,4-Dichlorobenzene	< 1	Methylene Chloride	< 2
	Carbon Tetrachloride	< 1	Dichlorodifluoromethane	< 1	Naphthalene	< 1
	Carbon Disulfide	< 1	1,1-Dichloroethane	< 1	Propylbenzene	< 1
	Chlorobenzene	< 1	1,2-Dichloroethane	< 1	Styrene	< 1
	Chloroethane	< 1	1,1-Dichloroethene	< 1	1,1,1,2-Tetrachloroethane	< 1
	Chloromethane	< 1	cis-1,2-Dichloroethene	< 1	1,1,2,2-Tetrachloroethane	< 1
			trans-1,2-Dichloroethene	< 1	Tetrachloroethene	< 1
			1,2-Dichloropropane	< 1	Toluene	< 1
					1,2,3-Trichlorobenzene	< 1
					1,2,4-Trichlorobenzene	< 1
				1,1,1-Trichloroethane	< 1	
				1,1,2-Trichloroethane	< 1	
				Trichloroethene	< 1	
				Trichlorofluoromethane	< 1	
				Trichlorotrifluoroethane	< 1	
				1,2,3-Trichloropropane	< 1	
				1,2,3-Trimethylbenzene	< 1	
				1,2,4-Trimethylbenzene	< 1	
				1,3,5-Trimethylbenzene	< 1	
				Vinyl Acetate	< 5	
				Vinyl Chloride	< 1	
				Methyl-Tert-Butyl-Ether	< 1	
				4-Methyl-2-pentanone	< 5	
				o-xylene	< 1	
				m-xylene (1)	< 1	
				p-xylene (1)	< 1	

### METALS, CYANIDE, & SULFIDE COMPOUNDS

Analyte	Detection Limit (ug/L)					
	Aluminum	< 80	Cadmium	< 1	Manganese	< 10
	Antimony	< 5	Calcium	< 500	Mercury	< 0.2
	Arsenic	< 2	Calcium (HDPE)	< 100	Nickel	< 20
	Barium	< 20	Chromium	< 10	Potassium	< 750
	Barium (Amber HDPE)	< 50	Cobalt	< 10	Potassium (HDPE)	< 100
	Beryllium	< 0.5	Copper	< 10	Selenium	< 2
			Iron	< 50	Silver	< 5
			Lead	< 2	Sodium	< 5000
			Magnesium	< 100	Sodium (HDPE)	< 100
					Thallium	< 5
					Vanadium	< 10
					Zinc	< 10
					Zinc (Amber HDPE)	< 500
					Cyanide	< 10
					Flouride	< 200
				Nitrate+Nitrite	< 100	



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"We sell experience with every container."

*Matt Macy*  
 Matt Macy-Vice President, ESS, Inc.  
 Quality Assurance Manager

For information on our cleaning & monitoring procedures please call:  
**800-233-8425**

# PRECLEANED CERTIFIED

## Certificate of Compliance

The enclosed containers have been chemically cleaned by using the specified USEPA cleaning procedures for low level chemical analysis. Representative containers have been tested by independent certified laboratories for their appropriate use. ESS containers meet and exceed the required detection limits established by the USEPA in SPECIFICATIONS AND GUIDANCE FOR CONTAMINANT-FREE SAMPLE CONTAINERS (OSWER Directive #9240.0-05A).

### EXTRACTABLE ORGANIC COMPOUNDS (PROCEDURE 1)

Analyte	Quantitation Limit (ug/L)	Alpha-Chlordane	<0.005	4-Methylphenol	<1	2-Nitroaniline	<1	Anthracene	<0.1	
<b>PESTICIDES/PCB'S</b>		Gamma-Chlordane	<0.005	N-Nitroso-di-n-propylamine	<1	Dimethylphthalate	<1	Di-n-Butylphthalate	<0.2	
		Toxaphene	<0.005	Hexachloroethane	<1	Acenaphthylene	<0.2	Fluoroanthene	<0.1	
		Alpha-BHC	<0.005	Aroclor-1016	<0.2	Nitrobenzene	<1	Pyrene	<0.15	
		Beta-BHC	<0.005	Aroclor-1221	<0.2	Isophorone	<1	Butylbenzylphthalate	<1	
		Delta-BHC	<0.005	Aroclor-1232	<0.2	2-Nitrophenol	<1	1,2'-Dichlorobenzene	<1	
		Gamma-BHC (Lindane)	<0.005	Aroclor-1242	<0.2	2,4-Dimethylphenol	<1	1,3'-Dichlorobenzene	<1	
		Heptachlor	<0.005	Aroclor-1248	<0.2	bis-(2-Chloroethoxy) methane	<1	1,4'-Dichlorobenzene	<1	
		Aldrin	<0.005	Aroclor-1254	<0.2	2,4-Dichlorophenol	<1	3,3'-Dichlorobenzidine	<1	
		Heptachlor Epoxide	<0.005	Aroclor-1260	<0.2	1,2,4-Trichlorobenzene	<1	Benzo[a]anthracene	<0.15	
		Endosulfan I	<0.005	Aroclor-1262	<0.2	Naphthalene	<0.2	Chrysene	<0.1	
		Dieldrin	<0.005	Aroclor-1268	<0.2	4-Chloroaniline	<1	bis-(2-Ethylhexyl) Phthalate	<1	
		4,4'-DDE	<0.005		Hexachlorobutadiene	<1	Flourene	<0.15	Di-n-Octylphthalate	<1
		Endrin	<0.005		4-Chloro-3-Methylphenol	<1	4-Nitroaniline	<1.5	Benzo[b]fluoranthene	<0.2
		Endosulfan II	<0.005	<b>SEMIVOLATILES</b>	2-Methylnaphthalene	<0.2	4,6-Dinitro-2-Methylphenol	<1	Benzo[k]fluoranthene	<0.5
		4,4'-DDD	<0.005	Phenol	<1	Hexachlorocyclopentadiene	<1	N-Nitrosodiphenylamine	<1	Benzo[a]pyrene
	Endosulfan Sulfate	<0.005	bis-(2-Chloroethyl) ether	<1	2,4,6-Trichlorophenol	<1	N-Nitrosodimethylamine	<1	Indeno[1,2,3-cd]pyrene	<0.2
	4,4'-DDT	<0.005	bis-(2-Chloroisopropyl) ether	<1	2,4,5-Trichlorophenol	<1	4-Bromophenyl-Phenylether	<1	Dibenzo[a,h]anthracene	<0.15
	Methoxychlor	<0.005	2-Methylphenol	<1	1,2-Diphenylhydrazene	<1	Hexachlorobenzene	<1	Benzo[g,h,i]perylene	<0.15
	Endrin Ketone	<0.005	2,2'-Oxybis-		Carbazole	<1	Pentachlorophenol	<1	Benzoic Acid	<5
	Endrin Aldehyde	<0.005	(1-Chloropropane)	<1	2-Chloronaphthalene	<0.15	Phenanthrene	<0.2	Benzyl Alcohol	<1

### PURGEABLE VOLATILE ORGANIC COMPOUNDS (PROCEDURE 2)

Analyte	Quantitation Limit (ug/L)	Chlorobenzene	<0.5	1,1-Dichloroethane	<0.5	4-Isopropyltoluene	<0.5	Trichlorotrifluoroethane	<0.5
Acetone	<2.5	Chloroethane	<0.5	1,2-Dichloroethane	<0.5	Methylene Chloride	<2	1,2,3-Trichloropropane	<0.5
Benzene	<0.5	Chloromethane	<0.5	1,1-Dichloroethene	<0.5	Naphthalene	<0.5	1,2,3-Trimethylbenzene	<0.5
Bromoform	<0.5	2-Chlorotoluene	<0.5	cis-1,2-Dichloroethene	<0.5	Propylbenzene	<0.5	1,2,4-Trimethylbenzene	<0.5
Bromobenzene	<0.5	4-Chlorotoluene	<0.5	trans-1,2-Dichloroethene	<0.5	Styrene	<0.5	1,3,5-Trimethylbenzene	<0.5
Bromochloromethane	<0.5	2,4-Chlorotoluene	<0.5	1,2-Dichloropropane	<0.5	1,1,1,2-Tetrachloroethane	<0.5	Vinyl Acetate	<1
Bromodichloromethane	<0.5	Chloroform	<0.5	1,3-Dichloropropane	<0.5	1,1,2,2-Tetrachloroethane	<0.5	Vinyl Chloride	<0.5
Bromomethane	<0.5	Dibromomethane	<0.5	2,2-Dichloropropane	<0.5	Tetrachloroethene	<0.5	Methyl-Tert-Butyl-Ether	<0.15
z-Butylbenzene	<1	1,2-Dibro 3-Chloropropane	<0.5	1,1-Dichloropropene	<0.5	Toluene	<0.5	4-Methyl-2-pentanone	<1
n-Butylbenzene	<0.5	Dibromochloromethane	<0.5	cis-1,3-Dichloropropene	<0.5	1,2,3-Trichlorobenzene	<0.5	ethyl-tert-butylether	<0.15
sec-Butylbenzene	<0.5	1,2-Dibromoethane (EDB)	<0.5	trans-1,3-Dichloropropene	<0.5	1,2,4-Trichlorobenzene	<0.5	tert-amylmethylether	<0.15
tert-Butylbenzene	<0.5	1,2-Dichlorobenzene	<0.5	Ethylbenzene	<0.5	1,1,1-Trichloroethane	<0.5	diisopropylether	<0.15
Carbon Tetrachloride	<0.5	1,3-Dichlorobenzene	<0.5	2-Hexanone	<1	1,1,2-Trichloroethane	<0.5	tert-butanol	<0.15
Carbon Disulfide	<0.5	1,4-Dichlorobenzene	<0.5	Hexachlorobutadiene	<0.5	Trichloroethene	<0.5	o-xylene	<0.5
		Dichlorodifluoromethane	<0.5	Isopropylbenzene	<0.5	Trichlorofluoromethane	<0.5	m-xylene(1)	<0.5
								p-xylene(1)	<0.5

### METALS, CYANIDE & SULFIDE COMPOUNDS (PROCEDURE 3)

Analyte	Detection Limit (ug/L)	Beryllium	<0.01	Iron	<3	Nickel	<0.05	Vanadium	<1
Aluminum	<0.5	Cadmium	<0.03	Lead	<0.05	Potassium	<50	Zinc	<0.3
Antimony	<0.03	Calcium	<50	Magnesium	<4	Selenium	<0.5	Cyanide	<5
Arsenic	<0.01	Chromium	<0.06	Manganese	<0.1	Silver	<0.02	Flouride	<100
Barium	<0.03	Cobalt	<0.25	Mercury	<0.2	Sodium	<6	Nitrate + Nitrite	<50
		Copper	<0.08	Molybdenum	<0.5	Thallium	<0.09		



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### EXTRACTABLE ORGANIC COMPOUNDS (PROCEDURE 1)

Analyte	Quantitation Limit (ug/L)	Alpha-Chlordane	<0.005	4-Methylphenol	<1	2-Nitroaniline	<1	Anthracene	<0.1
		Gamma-Chlordane	<0.005	N-Nitroso-di-n-propylamine	<1	Dimethylphthalate	<1	Di-n-Butylphthalate	<0.2
		Toxaphene	<0.005	Hexachloroethane	<1	Acenaphthylene	<0.2	Fluoroanthene	<0.1
<b>PESTICIDES/PCB'S</b>		Aroclor-1016	<0.2	Nitrobenzene	<1	2,6-Dinitrotoluene	<1	Pyrene	<0.15
Alpha-BHC	<0.005	Aroclor-1221	<0.2	Isophorone	<1	3-Nitroaniline	<1	Butylbenzylphthalate	<1
Beta-BHC	<0.005	Aroclor-1232	<0.2	2-Nitrophenol	<1	Acenaphthene	<0.2	1,2'-Dichlorobenzene	<1
Delta-BHC	<0.005	Aroclor-1242	<0.2	2,4-Dimethylphenol	<1	2,4-Dinitrophenol	<5	1,3'-Dichlorobenzene	<1
Gamma-BHC (Lindane)	<0.005	Aroclor-1248	<0.2	bis-(2-Chloroethoxy) methane	<1	4-Nitrophenol	<5	1,4'-Dichlorobenzene	<1
Heptachlor	<0.005	Aroclor-1254	<0.2	2,4-Dichlorophenol	<1	Dibenzofuran	<1	3,3'-Dichlorobenzidine	<1
Aldrin	<0.005	Aroclor-1260	<0.2	1,2,4-Trichlorobenzene	<1	2,4-Dinitrotoluene	<1	Benzo[a]anthracene	<0.15
Heptachlor Epoxide	<0.005	Aroclor-1262	<0.2	Naphthalene	<0.2	Diethylphthalate	<1	Chrysene	<0.1
Endosulfan I	<0.005	Aroclor-1268	<0.2	4-Chloroaniline	<1	4-Chlorophenyl-Phenylether	<1	bis-(2-Ethylhexyl) Phthalate	<1
Dieldrin	<0.005			Hexachlorobutadiene	<1	Flourene	<0.15	Di-n-Octylphthalate	<1
4,4'-DDE	<0.005	<b>SEMIVOLATILES</b>		4-Chloro-3-Methylphenol	<1	4-Nitroaniline	<1.5	Benzo[b]fluoranthene	<0.2
Endrin	<0.005	Phenol	<1	2-Methylnaphthalene	<0.2	4,6-Dinitro-2-Methylphenol	<1	Benzo[k]fluoranthene	<0.15
Endosulfan II	<0.005	bis-(2-Chloroethyl) ether	<1	Hexachlorocyclopentadiene	<1	N-Nitrosodiphenylamine	<1	Benzo[a]pyrene	<0.15
4,4'-DDD	<0.005	bis-(2-Chloroisopropyl) ether	<1	2,4,6-Trichlorophenol	<1	N-Nitrosodimethylamine	<1	Indeno[1,2,3-cd]pyrene	<0.2
Endosulfan Sulfate	<0.005	2-Chlorophenol	<1	2,4,5-Trichlorophenol	<1	4-Bromophenyl-Phenylether	<1	Dibenzo[a,h]anthracene	<0.15
4,4'-DDT	<0.005	2-Methylphenol	<1	1,2-Diphenylhydrazene	<1	Hexachlorobenzene	<1	Benzo[g,h,i]perylene	<0.15
Methoxychlor	<0.005	2,2'-Oxybis-		Carbazole	<1	Pentachlorophenol	<1	Benzoic Acid	<5
Endrin Ketone	<0.005	(1-Chloropropane)	<1	2-Chloronaphthalene	<0.15	Phenanthrene	<0.2	Benzyl Alcohol	<1

### PURGEABLE VOLATILE ORGANIC COMPOUNDS (PROCEDURE 2)

Analyte	Quantitation Limit (ug/L)	Chlorobenzene	<0.5	1,1-Dichloroethane	<0.5	4-Isopropyltoluene	<0.5	Trichlorotrifluoroethane	<0.5
		Chloroethane <td>&lt;0.5 <td>1,2-Dichloroethane <td>&lt;0.5 <td>Methylene Chloride <td>&lt;2</td> <td>1,2,3-Trichloropropane <td>&lt;0.5</td> </td></td></td></td></td>	<0.5 <td>1,2-Dichloroethane <td>&lt;0.5 <td>Methylene Chloride <td>&lt;2</td> <td>1,2,3-Trichloropropane <td>&lt;0.5</td> </td></td></td></td>	1,2-Dichloroethane <td>&lt;0.5 <td>Methylene Chloride <td>&lt;2</td> <td>1,2,3-Trichloropropane <td>&lt;0.5</td> </td></td></td>	<0.5 <td>Methylene Chloride <td>&lt;2</td> <td>1,2,3-Trichloropropane <td>&lt;0.5</td> </td></td>	Methylene Chloride <td>&lt;2</td> <td>1,2,3-Trichloropropane <td>&lt;0.5</td> </td>	<2	1,2,3-Trichloropropane <td>&lt;0.5</td>	<0.5
Acetone	<2.5	Chloromethane <td>&lt;0.5 <td>1,1-Dichloroethene <td>&lt;0.5 <td>Naphthalene <td>&lt;0.5</td> <td>1,2,3-Trimethylbenzene <td>&lt;0.5</td> </td></td></td></td></td>	<0.5 <td>1,1-Dichloroethene <td>&lt;0.5 <td>Naphthalene <td>&lt;0.5</td> <td>1,2,3-Trimethylbenzene <td>&lt;0.5</td> </td></td></td></td>	1,1-Dichloroethene <td>&lt;0.5 <td>Naphthalene <td>&lt;0.5</td> <td>1,2,3-Trimethylbenzene <td>&lt;0.5</td> </td></td></td>	<0.5 <td>Naphthalene <td>&lt;0.5</td> <td>1,2,3-Trimethylbenzene <td>&lt;0.5</td> </td></td>	Naphthalene <td>&lt;0.5</td> <td>1,2,3-Trimethylbenzene <td>&lt;0.5</td> </td>	<0.5	1,2,3-Trimethylbenzene <td>&lt;0.5</td>	<0.5
Benzene	<0.5	2-Chlorotoluene <td>&lt;0.5</td> <td>cis-1,2-Dichloroethene <td>&lt;0.5</td> <td>Propylbenzene <td>&lt;0.5</td> <td>1,2,4-Trimethylbenzene <td>&lt;0.5</td> </td></td></td>	<0.5	cis-1,2-Dichloroethene <td>&lt;0.5</td> <td>Propylbenzene <td>&lt;0.5</td> <td>1,2,4-Trimethylbenzene <td>&lt;0.5</td> </td></td>	<0.5	Propylbenzene <td>&lt;0.5</td> <td>1,2,4-Trimethylbenzene <td>&lt;0.5</td> </td>	<0.5	1,2,4-Trimethylbenzene <td>&lt;0.5</td>	<0.5
Bromoform	<0.5	4-Chlorotoluene <td>&lt;0.5</td> <td>trans-1,2-Dichloroethene <td>&lt;0.5</td> <td>Styrene <td>&lt;0.5</td> <td>1,3,5-Trimethylbenzene <td>&lt;0.5</td> </td></td></td>	<0.5	trans-1,2-Dichloroethene <td>&lt;0.5</td> <td>Styrene <td>&lt;0.5</td> <td>1,3,5-Trimethylbenzene <td>&lt;0.5</td> </td></td>	<0.5	Styrene <td>&lt;0.5</td> <td>1,3,5-Trimethylbenzene <td>&lt;0.5</td> </td>	<0.5	1,3,5-Trimethylbenzene <td>&lt;0.5</td>	<0.5
Bromobenzene	<0.5	2,4-Chlorotoluene <td>&lt;0.5</td> <td>1,2-Dichloropropane <td>&lt;0.5</td> <td>1,1,1,2-Tetrachloroethane <td>&lt;0.5</td> <td>Vinyl Acetate</td> <td>&lt;1</td> </td></td>	<0.5	1,2-Dichloropropane <td>&lt;0.5</td> <td>1,1,1,2-Tetrachloroethane <td>&lt;0.5</td> <td>Vinyl Acetate</td> <td>&lt;1</td> </td>	<0.5	1,1,1,2-Tetrachloroethane <td>&lt;0.5</td> <td>Vinyl Acetate</td> <td>&lt;1</td>	<0.5	Vinyl Acetate	<1
Bromochloromethane	<0.5	Chloroform <td>&lt;0.5</td> <td>1,3-Dichloropropane <td>&lt;0.5</td> <td>1,1,2,2-Tetrachloroethane <td>&lt;0.5</td> <td>Vinyl Chloride <td>&lt;0.5</td> </td></td></td>	<0.5	1,3-Dichloropropane <td>&lt;0.5</td> <td>1,1,2,2-Tetrachloroethane <td>&lt;0.5</td> <td>Vinyl Chloride <td>&lt;0.5</td> </td></td>	<0.5	1,1,2,2-Tetrachloroethane <td>&lt;0.5</td> <td>Vinyl Chloride <td>&lt;0.5</td> </td>	<0.5	Vinyl Chloride <td>&lt;0.5</td>	<0.5
Bromodichloromethane	<0.5	Dibromomethane <td>&lt;0.5</td> <td>2,2-Dichloropropane <td>&lt;0.5</td> <td>Tetrachloroethene <td>&lt;0.5</td> <td>Methyl-Tert-Butyl-Ether <td>&lt;0.15</td> </td></td></td>	<0.5	2,2-Dichloropropane <td>&lt;0.5</td> <td>Tetrachloroethene <td>&lt;0.5</td> <td>Methyl-Tert-Butyl-Ether <td>&lt;0.15</td> </td></td>	<0.5	Tetrachloroethene <td>&lt;0.5</td> <td>Methyl-Tert-Butyl-Ether <td>&lt;0.15</td> </td>	<0.5	Methyl-Tert-Butyl-Ether <td>&lt;0.15</td>	<0.15
Bromomethane	<0.5	1,2-Dibro 3-Chloropropane <td>&lt;0.5</td> <td>1,1-Dichloropropene <td>&lt;0.5</td> <td>Toluene <td>&lt;0.5</td> <td>4-Methyl-2-pentanone <td>&lt;1</td> </td></td></td>	<0.5	1,1-Dichloropropene <td>&lt;0.5</td> <td>Toluene <td>&lt;0.5</td> <td>4-Methyl-2-pentanone <td>&lt;1</td> </td></td>	<0.5	Toluene <td>&lt;0.5</td> <td>4-Methyl-2-pentanone <td>&lt;1</td> </td>	<0.5	4-Methyl-2-pentanone <td>&lt;1</td>	<1
z-Butylbenzene	<1	Dibromochloromethane <td>&lt;0.5</td> <td>cis-1,3-Dichloropropene <td>&lt;0.5</td> <td>1,2,3-Trichlorobenzene <td>&lt;0.5</td> <td>ethyl-tert-butylether <td>&lt;0.15</td> </td></td></td>	<0.5	cis-1,3-Dichloropropene <td>&lt;0.5</td> <td>1,2,3-Trichlorobenzene <td>&lt;0.5</td> <td>ethyl-tert-butylether <td>&lt;0.15</td> </td></td>	<0.5	1,2,3-Trichlorobenzene <td>&lt;0.5</td> <td>ethyl-tert-butylether <td>&lt;0.15</td> </td>	<0.5	ethyl-tert-butylether <td>&lt;0.15</td>	<0.15
n-Butylbenzene	<0.5	1,2-Dibromoethane (EDB) <td>&lt;0.5</td> <td>trans-1,3-Dichloropropene <td>&lt;0.5</td> <td>1,2,4-Trichlorobenzene <td>&lt;0.5</td> <td>tert-amylmethylether <td>&lt;0.15</td> </td></td></td>	<0.5	trans-1,3-Dichloropropene <td>&lt;0.5</td> <td>1,2,4-Trichlorobenzene <td>&lt;0.5</td> <td>tert-amylmethylether <td>&lt;0.15</td> </td></td>	<0.5	1,2,4-Trichlorobenzene <td>&lt;0.5</td> <td>tert-amylmethylether <td>&lt;0.15</td> </td>	<0.5	tert-amylmethylether <td>&lt;0.15</td>	<0.15
sec-Butylbenzene	<0.5	1,2-Dichlorobenzene <td>&lt;0.5</td> <td>Ethylbenzene <td>&lt;0.5</td> <td>1,1,1-Trichloroethane <td>&lt;0.5</td> <td>diisopropylether <td>&lt;0.15</td> </td></td></td>	<0.5	Ethylbenzene <td>&lt;0.5</td> <td>1,1,1-Trichloroethane <td>&lt;0.5</td> <td>diisopropylether <td>&lt;0.15</td> </td></td>	<0.5	1,1,1-Trichloroethane <td>&lt;0.5</td> <td>diisopropylether <td>&lt;0.15</td> </td>	<0.5	diisopropylether <td>&lt;0.15</td>	<0.15
tert-Butylbenzene	<0.5	1,3-Dichlorobenzene <td>&lt;0.5</td> <td>2-Hexanone <td>&lt;1</td> <td>1,1,2-Trichloroethane <td>&lt;0.5</td> <td>tert-butanol <td>&lt;0.15</td> </td></td></td>	<0.5	2-Hexanone <td>&lt;1</td> <td>1,1,2-Trichloroethane <td>&lt;0.5</td> <td>tert-butanol <td>&lt;0.15</td> </td></td>	<1	1,1,2-Trichloroethane <td>&lt;0.5</td> <td>tert-butanol <td>&lt;0.15</td> </td>	<0.5	tert-butanol <td>&lt;0.15</td>	<0.15
Carbon Tetrachloride	<0.5	1,4-Dichlorobenzene <td>&lt;0.5</td> <td>Hexachlorobutadiene <td>&lt;0.5</td> <td>Trichloroethene <td>&lt;0.5</td> <td>o-xylene <td>&lt;0.5</td> </td></td></td>	<0.5	Hexachlorobutadiene <td>&lt;0.5</td> <td>Trichloroethene <td>&lt;0.5</td> <td>o-xylene <td>&lt;0.5</td> </td></td>	<0.5	Trichloroethene <td>&lt;0.5</td> <td>o-xylene <td>&lt;0.5</td> </td>	<0.5	o-xylene <td>&lt;0.5</td>	<0.5
Carbon Disulfide	<0.5	Dichlorodifluoromethane <td>&lt;0.5</td> <td>Isopropylbenzene <td>&lt;0.5</td> <td>Trichlorofluoromethane <td>&lt;0.5</td> <td>m-xylene(1)</td> <td>&lt;0.5</td> </td></td>	<0.5	Isopropylbenzene <td>&lt;0.5</td> <td>Trichlorofluoromethane <td>&lt;0.5</td> <td>m-xylene(1)</td> <td>&lt;0.5</td> </td>	<0.5	Trichlorofluoromethane <td>&lt;0.5</td> <td>m-xylene(1)</td> <td>&lt;0.5</td>	<0.5	m-xylene(1)	<0.5
								p-xylene(1)	<0.5

### METALS, CYANIDE & SULFIDE COMPOUNDS (PROCEDURE 3)

Analyte	Detection Limit (ug/L)	Beryllium	<0.01	Iron	<3	Nickel	<0.05	Vanadium	<1
		Cadmium	<0.03	Lead	<0.05	Potassium	<50	Zinc	<0.3
Aluminum	<0.5	Calcium	<50	Magnesium	<4	Selenium	<0.5	Cyanide	<5
Antimony	<0.03	Chromium	<0.06	Manganese	<0.1	Silver	<0.02	Fluoride	<100
Arsenic	<0.01	Cobalt	<0.25	Mercury	<0.2	Sodium	<6	Nitrate + Nitrite	<50
Barium	<0.03	Copper	<0.08	Molybdenum	<0.5	Thallium	<0.09		



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The enclosed containers have been chemically cleaned by using the specified USEPA cleaning procedures for low level chemical analysis. ESS containers meet and exceed the required detection limits established by the USEPA in SPECIFICATIONS AND GUIDANCE FOR CONTAMINANT-FREE SAMPLE CONTAINERS.

### EXTRACTABLE ORGANIC COMPOUNDS

Analyte	Quantitation Limit (ug/L)					
Pesticides / PCBs	Alpha-BHC	< 0.01	Aroclor-1232	< 0.20	Hexachlorobutadiene	< 5
	Beta-BHC	< 0.01	Aroclor-1242	< 0.20	4-Chloro-3-Methylphenol	< 5
	Delta-BHC	< 0.01	Aroclor-1248	< 0.20	2-Methylnaphthalene	< 5
	Gamma-BHC (Lindane)	< 0.01	Aroclor-1254	< 0.20	Hexachlorocyclopentadiene	< 5
	Heptachlor	< 0.01	Aroclor-1260	< 0.20	2,4,6-Trichlorophenol	< 5
	Aldrin	< 0.01	Aroclor-1262	< 0.20	2,4,5-Trichlorophenol	< 20
	Heptachlor Epoxide	< 0.01	Aroclor-1268	< 0.20	1,2-Diphenylhydrazene	< 5
	Endosulfan I	< 0.01			Carbazole	< 5
	Dieldrin	< 0.02	Semivolatiles		2-Chloronaphthalene	< 5
	4,4'-DDE	< 0.02	Phenol	< 5	2-Nitroaniline	< 20
	Endrin	< 0.02	bis-(2-Chloroethyl) ether	< 5	Dimethylphthalate	< 5
	Endosulfan II	< 0.02	bis-(2-Chloroisopropyl) ether	< 5	Acenaphthylene	< 5
	4,4'-DDD	< 0.02	2-Chlorophenol	< 5	2,6-Dinitrotoluene	< 5
	Endosulfan Sulfate	< 0.02	2-Methylphenol	< 5	3-Nitroaniline	< 20
	4,4'-DDT	< 0.02	2,2'-Oxybis-(1-Chloropropane)	< 5	Acenaphthene	< 5
	Methoxychlor	< 0.10	4-Methylphenol	< 5	2,4-Dinitrophenol	< 20
	Endrin Ketone	< 0.02	N-Nitroso-di-n-propylamine	< 5	4-Nitrophenol	< 20
	Endrin Aldehyde	< 0.02	Hexachloroethane	< 5	Dibenzofuran	< 5
	Alpha-Chlordane	< 0.01	Nitrobenzene	< 5	2,4-Dinitrotoluene	< 5
	Gamma-Chlordane	< 0.01	Isophorone	< 5	Diethylphthalate	< 5
	Toxaphene	< 1.0	2-Nitrophenol	< 5	4-Chlorophenyl-Phenylether	< 5
	Aroclor-1016	< 0.20	2,4-Dimethylphenol	< 5	Flourene	< 5
	Aroclor-1221	< 0.20	bis-(2-Chloroethoxy) methane	< 5	4-Nitroaniline	< 20
			2,4-Dichlorophenol	< 5	4,6-Dinitro-2-Methylphenol	< 20
			1,2,4-Trichlorobenzene	< 5	N-Nitrosodiphenylamine	< 5
		Naphthalene	< 5	N-Nitrosodimethylamine	< 5	
		4-Chloroaniline	< 5			
				4-Bromophenyl-Phenylether	< 5	
				Hexachlorobenzene	< 5	
				Pentachlorophenol	< 20	
				Phenanthrene	< 5	
				Anthracene	< 5	
				Di-n-Butylphthalate	< 5	
				Fluoroanthene	< 5	
				Pyrene	< 5	
				Butylbenzylphthalate	< 5	
				1,2'-Dichlorobenzene	< 5	
				1,3'-Dichlorobenzene	< 5	
				1,4'-Dichlorobenzene	< 5	
				3,3'-Dichlorobenzidine	< 5	
				Benzo[a]anthracene	< 5	
				Chrysene	< 5	
				bis-(2-Ethylhexyl) Phthalate	< 5	
				Di-n-Octylphthalate	< 5	
				Benzo[b]fluoranthene	< 5	
				Benzo[k]fluoranthene	< 5	
				Benzo[a]pyrene	< 5	
				Indeno(1,2,3-cd)pyrene	< 5	
				Dibenzo[a,h]anthracene	< 5	
				Benzo[g,h,i]perylene	< 5	
				Benzoic Acid	< 20	
				Benzyl Alcohol	< 5	

### PURGEABLE VOLATILE ORGANIC COMPOUNDS

Analyte	Quantitation Limit (ug/L)				
Acetone	< 5	2-Chlorotoluene	< 1	1,3-Dichloropropane	< 1
Benzene	< 1	4-Chlorotoluene	< 1	2,2-Dichloropropane	< 1
Bromoform	< 1	2,4-Chlorotoluene	< 1	1,1-Dichloropropene	< 1
Bromobenzene	< 1	Chloroform	< 1	cis-1,3-Dichloropropene	< 1
Bromochloromethane	< 1	Dibromomethane	< 1	trans-1,3-Dichloropropene	< 1
Bromodichloromethane	< 1	1,2-Dibromo 3-Chloropropane	< 1	Ethylbenzene	< 1
Bromomethane	< 1	Dibromochloromethane	< 1	2-Hexanone	< 5
z-Butylbenzene	< 5	1,2-Dibromoethane (EDB)	< 1	Hexachlorobutadiene	< 1
n-Butylbenzene	< 1	1,2-Dichlorobenzene	< 1	Isopropylbenzene	< 1
sec-Butylbenzene	< 1	1,3-Dichlorobenzene	< 1	4-Isopropyltoluene	< 1
tert-Butylbenzene	< 1	1,4-Dichlorobenzene	< 1	Methylene Chloride	< 2
Carbon Tetrachloride	< 1	Dichlorodifluoromethane	< 1	Naphthalene	< 1
Carbon Disulfide	< 1	1,1-Dichloroethane	< 1	Propylbenzene	< 1
Chlorobenzene	< 1	1,2-Dichloroethane	< 1	Styrene	< 1
Chloroethane	< 1	1,1-Dichloroethene	< 1	1,1,1,2-Tetrachloroethane	< 1
Chloromethane	< 1	cis-1,2-Dichloroethene	< 1	1,1,2,2-Tetrachloroethane	< 1
		trans-1,2-Dichloroethene	< 1	Tetrachloroethene	< 1
		1,2-Dichloropropane	< 1	Toluene	< 1
				1,2,3-Trichlorobenzene	< 1
				1,2,4-Trichlorobenzene	< 1
				1,1,1-Trichloroethane	< 1
				1,1,2-Trichloroethane	< 1
				Trichloroethene	< 1
				Trichlorofluoromethane	< 1
				Trichlorotrifluoroethane	< 1
				1,2,3-Trichloropropane	< 1
				1,2,3-Trimethylbenzene	< 1
				1,2,4-Trimethylbenzene	< 1
				1,3,5-Trimethylbenzene	< 1
				Vinyl Acetate	< 5
				Vinyl Chloride	< 1
				Methyl-Tert-Butyl-Ether	< 1
				4-Methyl-2-pentanone	< 5
				o-xylene	< 1
				m-xylene (1)	< 1
				p-xylene (1)	< 1

### METALS, CYANIDE, & SULFIDE COMPOUNDS

Analyte	Detection Limit (ug/L)				
Aluminum	< 80	Cadmium	< 1	Manganese	< 10
Antimony	< 5	Calcium	< 500	Mercury	< 0.2
Arsenic	< 2	Calcium (HDPE)	< 100	Nickel	< 20
Barium	< 20	Chromium	< 10	Potassium	< 750
Barium (Amber HDPE)	< 50	Cobalt	< 10	Potassium (HDPE)	< 100
Beryllium	< 0.5	Copper	< 10	Selenium	< 2
		Iron	< 50	Silver	< 5
		Lead	< 2	Sodium	< 5000
		Magnesium	< 100	Sodium (HDPE)	< 100
				Thallium	< 5
				Vanadium	< 10
				Zinc	< 10
				Zinc (Amber HDPE)	< 500
				Cyanide	< 10
				Flouride	< 200
				Nitrate+Nitrite	< 100



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"We sell experience with every container."

*Matt Macy*  
 Matt Macy-Vice President, ESS, Inc.  
 Quality Assurance Manager

For information on our cleaning & monitoring procedures please call:  
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### EXTRACTABLE ORGANIC COMPOUNDS

Analyte	Quantitation Limit (ug/L)								
<b>Pesticides / PCBs</b>	Alpha-BHC	< 0.01	Aroclor-1232	< 0.20	Hexachlorobutadiene	< 5	4-Bromophenyl-Phenylether	< 5	
	Beta-BHC	< 0.01	Aroclor-1242	< 0.20	4-Chloro-3-Methylphenol	< 5	Hexachlorobenzene	< 5	
	Delta-BHC	< 0.01	Aroclor-1248	< 0.20	2-Methylnaphthalene	< 5	Pentachlorophenol	< 20	
	Gamma-BHC (Lindane)	< 0.01	Aroclor-1254	< 0.20	Hexachlorocyclopentadiene	< 5	Phenanthrene	< 5	
	Heptachlor	< 0.01	Aroclor-1260	< 0.20	2,4,6-Trichlorophenol	< 5	Anthracene	< 5	
	Aldrin	< 0.01	Aroclor-1262	< 0.20	2,4,5-Trichlorophenol	< 20	Di-n-Butylphthalate	< 5	
	Heptachlor Epoxide	< 0.01	Aroclor-1268	< 0.20	1,2-Diphenylhydrazene	< 5	Fluoroanthene	< 5	
	Endosulfan I	< 0.01	<b>Semivolatiles</b>	Phenol	< 5	Carbazole	< 5	Pyrene	< 5
	Endosulfan II	< 0.02		2-Chloronaphthalene	< 5	2-Chloronaphthalene	< 5	Butylbenzylphthalate	< 5
	4,4'-DDE	< 0.02		Phenol	< 5	2-Nitroaniline	< 20	1,2'-Dichlorobenzene	< 5
	Endrin	< 0.02		bis-(2-Chloroethyl) ether	< 5	Dimethylphthalate	< 5	1,3'-Dichlorobenzene	< 5
	Endosulfan II	< 0.02		bis-(2-Chloroisopropyl) ether	< 5	Acenaphthylene	< 5	1,4'-Dichlorobenzene	< 5
	4,4'-DDD	< 0.02		2-Chlorophenol	< 5	2,6-Dinitrotoluene	< 5	3,3'-Dichlorobenzidine	< 5
	Endosulfan Sulfate	< 0.02		2-Methylphenol	< 5	3-Nitroaniline	< 20	Benzo[a]anthracene	< 5
	4,4'-DDT	< 0.02		2,2'-Oxybis-(1-Chloropropane)	< 5	Acenaphthene	< 5	Chrysene	< 5
	Methoxychlor	< 0.10		4-Methylphenol	< 5	2,4-Dinitrophenol	< 20	bis-(2-Ethylhexyl) Phthalate	< 5
	Endrin Ketone	< 0.02		N-Nitroso-di-n-propylamine	< 5	4-Nitrophenol	< 20	Di-n-Octylphthalate	< 5
	Endrin Aldehyde	< 0.02	Hexachloroethane	< 5	Dibenzofuran	< 5	Benzo[b]fluoranthene	< 5	
	Alpha-Chlordane	< 0.01	Nitrobenzene	< 5	2,4-Dinitrotoluene	< 5	Benzo[k]fluoranthene	< 5	
	Gamma-Chlordane	< 0.01	Isophorone	< 5	Diethylphthalate	< 5	Benzo[a]pyrene	< 5	
Toxaphene	< 1.0	2-Nitrophenol	< 5	4-Chlorophenyl-Phenylether	< 5	Indeno(1,2,3-cd)pyrene	< 5		
Aroclor-1016	< 0.20	2,4-Dimethylphenol	< 5	Flourene	< 5	Dibenzo[a,h]anthracene	< 5		
Aroclor-1221	< 0.20	bis-(2-Chloroethoxy) methane	< 5	4-Nitroaniline	< 20	Benzo[g,h,i]perylene	< 5		
		2,4-Dichlorophenol	< 5	4,6-Dinitro-2-Methylphenol	< 20	Benzoic Acid	< 20		
		1,2,4-Trichlorobenzene	< 5	N-Nitrosodiphenylamine	< 5	Benzyl Alcohol	< 5		
		Naphthalene	< 5	N-Nitrosodimethylamine	< 5				
		4-Chloroaniline	< 5						

### PURGEABLE VOLATILE ORGANIC COMPOUNDS

Analyte	Quantitation Limit (ug/L)						
Acetone	< 5	2-Chlorotoluene	< 1	1,3-Dichloropropane	< 1	1,2,3-Trichlorobenzene	< 1
Benzene	< 1	4-Chlorotoluene	< 1	2,2-Dichloropropane	< 1	1,2,4-Trichlorobenzene	< 1
Bromoform	< 1	2,4-Chlorotoluene	< 1	1,1-Dichloropropane	< 1	1,1,1-Trichloroethane	< 1
Bromobenzene	< 1	Chloroform	< 1	cis-1,3-Dichloropropene	< 1	1,1,2-Trichloroethane	< 1
Bromochloromethane	< 1	Dibromomethane	< 1	trans-1,3-Dichloropropene	< 1	Trichloroethene	< 1
Bromodichloromethane	< 1	1,2-Dibro 3-Chloropropane	< 1	Ethylbenzene	< 1	Trichlorofluoromethane	< 1
Bromomethane	< 1	Dibromochloromethane	< 1	2-Hexanone	< 5	Trichlorotrifluoroethane	< 1
z-Butylbenzene	< 5	1,2-Dibromoethane (EDB)	< 1	Hexachlorobutadiene	< 1	1,2,3-Trichloropropane	< 1
n-Butylbenzene	< 1	1,2-Dichlorobenzene	< 1	Isopropylbenzene	< 1	1,2,3-Trimethylbenzene	< 1
sec-Butylbenzene	< 1	1,3-Dichlorobenzene	< 1	4-Isopropyltoluene	< 1	1,2,4-Trimethylbenzene	< 1
tert-Butylbenzene	< 1	1,4-Dichlorobenzene	< 1	Methylene Chloride	< 2	1,3,5-Trimethylbenzene	< 1
Carbon Tetrachloride	< 1	Dichlorodifluoromethane	< 1	Naphthalene	< 1	Vinyl Acetate	< 5
Carbon Disulfide	< 1	1,1-Dichloroethane	< 1	Propylbenzene	< 1	Vinyl Chloride	< 1
Chlorobenzene	< 1	1,2-Dichloroethane	< 1	Styrene	< 1	Methyl-Tert-Butyl-Ether	< 1
Chloroethane	< 1	1,1-Dichloroethene	< 1	1,1,1,2-Tetrachloroethane	< 1	4-Methyl-2-pentanone	< 5
Chloromethane	< 1	cis-1,2-Dichloroethene	< 1	1,1,2,2-Tetrachloroethane	< 1	o-xylene	< 1
		trans-1,2-Dichloroethene	< 1	Tetrachloroethene	< 1	m-xylene (1)	< 1
		1,2-Dichloropropane	< 1	Toluene	< 1	p-xylene (1)	< 1

### METALS, CYANIDE, & SULFIDE COMPOUNDS

Analyte	Detection Limit (ug/L)						
Aluminum	< 80	Cadmium	< 1	Manganese	< 10	Thallium	< 5
Antimony	< 5	Calcium	< 500	Mercury	< 0.2	Vanadium	< 10
Arsenic	< 2	Calcium (HDPE)	< 100	Nickel	< 20	Zinc	< 10
Barium	< 20	Chromium	< 10	Potassium	< 750	Zinc (Amber HDPE)	< 500
Barium (Amber HDPE)	< 50	Cobalt	< 10	Potassium (HDPE)	< 100	Cyanide	< 10
Beryllium	< 0.5	Copper	< 10	Selenium	< 2	Flouride	< 200
		Iron	< 50	Silver	< 5	Nitrate+Nitrite	< 100
		Lead	< 2	Sodium	< 5000		
		Magnesium	< 100	Sodium (HDPE)	< 100		



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### EXTRACTABLE ORGANIC COMPOUNDS (PROCEDURE 1)

Analyte	Quantitation Limit (ug/L)	Alpha-Chlordane	<0.005	4-Methylphenol	<1	2-Nitroaniline	<1	Anthracene	<0.1	
		Gamma-Chlordane	<0.005	N-Nitroso-di-n-propylamine	<1	Dimethylphthalate	<1	Di-n-Butylphthalate	<0.2	
<b>PESTICIDES/PCB'S</b>										
Alpha-BHC	<0.005	Toxaphene	<0.005	Acenaphthylene	<0.2	Fluoranthene	<0.1	Pyrene	<0.15	
Beta-BHC	<0.005	Aroclor-1016	<0.2	Nitrobenzene	<1	2,6-Dinitrotoluene	<1	Butylbenzylphthalate	<1	
Delta-BHC	<0.005	Aroclor-1221	<0.2	Isophorone	<1	3-Nitroaniline	<1	1,2'-Dichlorobenzene	<1	
Gamma-BHC (Lindane)	<0.005	Aroclor-1232	<0.2	2-Nitrophenol	<1	Acenaphthene	<0.2	1,3'-Dichlorobenzene	<1	
Heptachlor	<0.005	Aroclor-1242	<0.2	2,4-Dimethylphenol	<1	2,4-Dinitrophenol	<5	1,4'-Dichlorobenzene	<1	
Aldrin	<0.005	Aroclor-1248	<0.2	bis-(2-Chloroethoxy) methane	<1	4-Nitrophenol	<5	3,3'-Dichlorobenzidine	<1	
Heptachlor Epoxide	<0.005	Aroclor-1254	<0.2	2,4-Dichlorophenol	<1	Dibenzofuran	<1	Benzo[a]anthracene	<0.15	
Endosulfan I	<0.005	Aroclor-1260	<0.2	1,2,4-Trichlorobenzene	<1	2,4-Dinitrotoluene	<1	Chrysene	<0.1	
Dieldrin	<0.005	Aroclor-1262	<0.2	Naphthalene	<0.2	Diethylphthalate	<1	bis-(2-Ethylhexyl) Phthalate	<1	
4,4'-DDE	<0.005	Aroclor-1268	<0.2	4-Chloroaniline	<1	4-Chlorophenyl-Phenylether	<1	Di-n-Octylphthalate	<1	
Endrin	<0.005			Hexachlorobutadiene	<1	Flourene	<0.15	Benzo[b]flouranthene	<0.2	
Endosulfan II	<0.005	<b>SEMIVOLATILES</b>			4-Chloro-3-Methylphenol	<1	4-Nitroaniline	<1.5	Benzo[k]flouranthene	<0.15
4,4'-DDD	<0.005	Phenol	<1	2-Methylnaphthalene	<0.2	4,6-Dinitro-2-Methylphenol	<1	Benzo[a]pyrene	<0.15	
Endosulfan Sulfate	<0.005	bis-(2-Chloroethyl) ether	<1	Hexachlorocyclopentadiene	<1	N-Nitrosodiphenylamine	<1	Indeno[1,2,3-cd]pyrene	<0.2	
4,4'-DDT	<0.005	bis-(2-Chloroisopropyl) ether	<1	2,4,6-Trichlorophenol	<1	N-Nitrosodimethylamine	<1	Dibenzo[a,h]anthracene	<0.15	
Methoxychlor	<0.005	2-Chlorophenol	<1	2,4,5-Trichlorophenol	<1	4-Bromophenyl-Phenylether	<1	Benzo[g,h,i]perylene	<0.15	
Endrin Ketone	<0.005	2-Methylphenol	<1	1,2-Diphenylhydrazene	<1	Hexachlorobenzene	<1	Benzoic Acid	<5	
Endrin Aldehyde	<0.005	2,2'-Oxybis-(1-Chloropropane)	<1	Carbazole	<1	Pentachlorophenol	<1	Benzyl Alcohol	<1	
				2-Chloronaphthalene	<0.15	Phenanthrene	<0.2			

### PURGEABLE VOLATILE ORGANIC COMPOUNDS (PROCEDURE 2)

Analyte	Quantitation Limit (ug/L)	Chlorobenzene	<0.5	1,1-Dichloroethane	<0.5	4-Isopropyltoluene	<0.5	Trichlorotrifluoroethane	<0.5
Acetone	<2.5	Chloroethane	<0.5	1,2-Dichloroethane	<0.5	Methylene Chloride	<2	1,2,3-Trichloropropane	<0.5
Benzene	<0.5	Chloromethane	<0.5	1,1-Dichloroethene	<0.5	Naphthalene	<0.5	1,2,3-Trimethylbenzene	<0.5
Bromoform	<0.5	2-Chlorotoluene	<0.5	cis-1,2-Dichloroethene	<0.5	Propylbenzene	<0.5	1,2,4-Trimethylbenzene	<0.5
Bromobenzene	<0.5	4-Chlorotoluene	<0.5	trans-1,2-Dichloroethene	<0.5	Styrene	<0.5	1,3,5-Trimethylbenzene	<0.5
Bromochloromethane	<0.5	2,4-Chlorotoluene	<0.5	1,2-Dichloropropane	<0.5	1,1,1,2-Tetrachloroethane	<0.5	Vinyl Acetate	<1
Bromodichloromethane	<0.5	Chloroform	<0.5	1,3-Dichloropropane	<0.5	1,1,2,2-Tetrachloroethane	<0.5	Vinyl Chloride	<0.5
Bromomethane	<0.5	Dibromomethane	<0.5	2,2-Dichloropropane	<0.5	Tetrachloroethene	<0.5	Methyl-Tert-Butyl-Ether	<0.15
z-Butylbenzene	<1	1,2-Dibro 3-Chloropropane	<0.5	1,1-Dichloropropene	<0.5	Toluene	<0.5	4-Methyl-2-pentanone	<1
n-Butylbenzene	<0.5	Dibromochloromethane	<0.5	cis-1,3-Dichloropropene	<0.5	1,2,3-Trichlorobenzene	<0.5	ethyl-tert-butylether	<0.15
sec-Butylbenzene	<0.5	1,2-Dibromoethane (EDB)	<0.5	trans-1,3-Dichloropropene	<0.5	1,2,4-Trichlorobenzene	<0.5	tert-amylmethylether	<0.15
tert-Butylbenzene	<0.5	1,2-Dichlorobenzene	<0.5	Ethylbenzene	<0.5	1,1,1-Trichloroethane	<0.5	diisopropylether	<0.15
Carbon Tetrachloride	<0.5	1,3-Dichlorobenzene	<0.5	2-Hexanone	<1	1,1,2-Trichloroethane	<0.5	tert-butanol	<0.15
Carbon Disulfide	<0.5	1,4-Dichlorobenzene	<0.5	Hexachlorobutadiene	<0.5	Trichloroethene	<0.5	o-xylene	<0.5
		Dichlorodifluoromethane	<0.5	Isopropylbenzene	<0.5	Trichlorofluoromethane	<0.5	m-xylene(1)	<0.5
								p-xylene(1)	<0.5

### METALS, CYANIDE & SULFIDE COMPOUNDS (PROCEDURE 3)

Analyte	Detection Limit (ug/L)	Beryllium	<0.01	Iron	<3	Nickel	<0.05	Vanadium	<1
Aluminum	<0.5	Cadmium	<0.03	Lead	<0.05	Potassium	<50	Zinc	<0.3
Antimony	<0.03	Calcium	<50	Magnesium	<4	Selenium	<0.5	Cyanide	<5
Arsenic	<0.01	Chromium	<0.06	Manganese	<0.1	Silver	<0.02	Flouride	<100
Barium	<0.03	Cobalt	<0.25	Mercury	<0.2	Sodium	<6	Nitrate + Nitrite	<50
		Copper	<0.08	Molybdenum	<0.5	Thallium	<0.09		



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### EXTRACTABLE ORGANIC COMPOUNDS (PROCEDURE 1)

Analyte	Quantitation Limit (ug/L)	Alpha-Chlordane	<0.005	4-Methylphenol	<1	2-Nitroaniline	<1	Anthracene	<0.1	
<b>PESTICIDES/PCB'S</b>	Alpha-BHC	<0.005	Aroclor-1016	<0.2	Nitrobenzene	<1	2,6-Dinitrotoluene	<1	Pyrene	<0.15
	Beta-BHC	<0.005	Aroclor-1221	<0.2	Isophorone	<1	3-Nitroaniline	<1	Butylbenzylphthalate	<1
	Delta-BHC	<0.005	Aroclor-1232	<0.2	2-Nitrophenol	<1	Acenaphthylene	<0.2	Fluoranthene	<0.1
	Gamma-BHC (Lindane)	<0.005	Aroclor-1242	<0.2	2,4-Dimethylphenol	<1	2,4-Dinitrophenol	<5	1,2'-Dichlorobenzene	<1
	Heptachlor	<0.005	Aroclor-1248	<0.2	bis-(2-Chloroethoxy) methane	<1	4-Nitrophenol	<5	1,4'-Dichlorobenzene	<1
	Aldrin	<0.005	Aroclor-1254	<0.2	2,4-Dichlorophenol	<1	Dibenzofuran	<1	3,3'-Dichlorobenzidine	<1
	Heptachlor Epoxide	<0.005	Aroclor-1260	<0.2	1,2,4-Trichlorobenzene	<1	2,4-Dinitrotoluene	<1	Benzo[a]anthracene	<0.15
	Endosulfan I	<0.005	Aroclor-1262	<0.2	Naphthalene	<0.2	Diethylphthalate	<1	Chrysene	<0.1
	Dieldrin	<0.005	Aroclor-1268	<0.2	4-Chloroaniline	<1	4-Chlorophenyl-Phenylether	<1	bis-(2-Ethylhexyl) Phthalate	<1
	4,4'-DDE	<0.005			Hexachlorobutadiene	<1	Flourene	<0.15	Di-n-Octylphthalate	<1
	Endrin	<0.005			4-Chloro-3-Methylphenol	<1	4-Nitroaniline	<1.5	Benzo[b]fluoranthene	<0.2
	Endosulfan II	<0.005			2-Methylnaphthalene	<0.2	4,6-Dinitro-2-Methylphenol	<1	Benzo[k]fluoranthene	<0.15
	4,4'-DDD	<0.005			Hexachlorocyclopentadiene	<1	N-Nitrosodiphenylamine	<1	Benzo[a]pyrene	<0.15
	Endosulfan Sulfate	<0.005			2,4,6-Trichlorophenol	<1	N-Nitrosodimethylamine	<1	Indeno[1,2,3-cd]pyrene	<0.2
	4,4'-DDT	<0.005			2,4,5-Trichlorophenol	<1	4-Bromophenyl-Phenylether	<1	Dibenzo[a,h]anthracene	<0.15
Methoxychlor	<0.005			1,2-Diphenylhydrazene	<1	Hexachlorobenzene	<1	Benzo[g,h,i]perylene	<0.15	
Endrin Ketone	<0.005			Carbazole	<1	Pentachlorophenol	<1	Benzoic Acid	<5	
Endrin Aldehyde	<0.005			2-Chloronaphthalene	<0.15	Phenanthrene	<0.2	Benzyl Alcohol	<1	

### PURGEABLE VOLATILE ORGANIC COMPOUNDS (PROCEDURE 2)

Analyte	Quantitation Limit (ug/L)	Chlorobenzene	<0.5	1,1-Dichloroethane	<0.5	4-Isopropyltoluene	<0.5	Trichlorotrifluoroethane	<0.5
Acetone	<2.5	Chloroethane	<0.5	1,2-Dichloroethane	<0.5	Methylene Chloride	<2	1,2,3-Trichloropropane	<0.5
Benzene	<0.5	Chloromethane	<0.5	1,1-Dichloroethene	<0.5	Naphthalene	<0.5	1,2,3-Trimethylbenzene	<0.5
Bromoform	<0.5	2-Chlorotoluene	<0.5	cis-1,2-Dichloroethene	<0.5	Propylbenzene	<0.5	1,2,4-Trimethylbenzene	<0.5
Bromobenzene	<0.5	4-Chlorotoluene	<0.5	trans-1,2-Dichloroethene	<0.5	Styrene	<0.5	1,3,5-Trimethylbenzene	<0.5
Bromochloromethane	<0.5	2,4-Chlorotoluene	<0.5	1,2-Dichloropropane	<0.5	1,1,1,2-Tetrachloroethane	<0.5	Vinyl Acetate	<1
Bromodichloromethane	<0.5	Chloroform	<0.5	2,2-Dichloropropane	<0.5	1,1,2,2-Tetrachloroethane	<0.5	Vinyl Chloride	<0.5
Bromomethane	<0.5	Dibromomethane	<0.5	1,1-Dichloropropane	<0.5	Tetrachloroethene	<0.5	Methyl-Tert-Butyl-Ether	<0.15
z-Butylbenzene	<1	1,2-Dibro 3-Chloropropane	<0.5	1,1-Dichloropropene	<0.5	Toluene	<0.5	4-Methyl-2-pentanone	<1
n-Butylbenzene	<0.5	Dibromochloromethane	<0.5	cis-1,3-Dichloropropene	<0.5	1,2,3-Trichlorobenzene	<0.5	ethyl-tert-butylether	<0.15
sec-Butylbenzene	<0.5	1,2-Dibromoethane (EDB)	<0.5	trans-1,3-Dichloropropene	<0.5	1,2,4-Trichlorobenzene	<0.5	tert-amylmethylether	<0.15
tert-Butylbenzene	<0.5	1,2-Dichlorobenzene	<0.5	Ethylbenzene	<0.5	1,1,1-Trichloroethane	<0.5	diisopropylether	<0.15
Carbon Tetrachloride	<0.5	1,3-Dichlorobenzene	<0.5	2-Hexanone	<1	1,1,2-Trichloroethane	<0.5	tert-butanol	<0.15
Carbon Disulfide	<0.5	1,4-Dichlorobenzene	<0.5	Hexachlorobutadiene	<0.5	Trichloroethene	<0.5	o-xylene	<0.5
		Dichlorodifluoromethane	<0.5	Isopropylbenzene	<0.5	Trichlorofluoromethane	<0.5	m-xylene(1)	<0.5
								p-xylene(1)	<0.5

### METALS, CYANIDE & SULFIDE COMPOUNDS (PROCEDURE 3)

Analyte	Detection Limit (ug/L)	Beryllium	<0.01	Iron	<3	Nickel	<0.05	Vanadium	<1
Aluminum	<0.5	Cadmium	<0.03	Lead	<0.05	Potassium	<50	Zinc	<0.3
Antimony	<0.03	Calcium	<50	Magnesium	<4	Selenium	<0.5	Cyanide	<5
Arsenic	<0.01	Chromium	<0.06	Manganese	<0.1	Silver	<0.02	Flouride	<100
Barium	<0.03	Cobalt	<0.25	Mercury	<0.2	Sodium	<6	Nitrate + Nitrite	<50
		Copper	<0.08	Molybdenum	<0.5	Thallium	<0.09		



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*Matthew Macy*  
Matthew Macy, Vice President ESS, Inc

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# PRECLEANED CERTIFIED

## Certificate of Compliance

The enclosed containers have been chemically cleaned by using the specified USEPA cleaning procedures for low level chemical analysis. Representative containers have been tested by independent certified laboratories for their appropriate use. ESS containers meet and exceed the required detection limits established by the USEPA in SPECIFICATIONS AND GUIDANCE FOR CONTAMINANT-FREE SAMPLE CONTAINERS (OSWER Directive #9240.0-05A).

### EXTRACTABLE ORGANIC COMPOUNDS (PROCEDURE 1)

Analyte	Quantitation Limit (ug/L)	Alpha-Chlordane	<0.005	4-Methylphenol	<1	2-Nitroaniline	<1	Anthracene	<0.1	
<b>PESTICIDES/PCB'S</b>	Alpha-BHC	<0.005	Aroclor-1016	<0.2	Nitrobenzene	<1	2,6-Dinitrotoluene	<1	Pyrene	<0.15
	Beta-BHC	<0.005	Aroclor-1221	<0.2	Isophorone	<1	3-Nitroaniline	<1	Butylbenzylphthalate	<1
	Delta-BHC	<0.005	Aroclor-1232	<0.2	2-Nitrophenol	<1	Acenaphthylene	<0.2	Fluoranthene	<0.1
	Gamma-BHC (Lindane)	<0.005	Aroclor-1242	<0.2	2,4-Dimethylphenol	<1	2,4-Dinitrophenol	<5	1,3'-Dichlorobenzene	<1
	Heptachlor	<0.005	Aroclor-1248	<0.2	bis-(2-Chloroethoxy) methane	<1	4-Nitrophenol	<5	1,4'-Dichlorobenzene	<1
	Aldrin	<0.005	Aroclor-1254	<0.2	2,4-Dichlorophenol	<1	Dibenzofuran	<1	3,3'-Dichlorobenzidine	<1
	Heptachlor Epoxide	<0.005	Aroclor-1260	<0.2	1,2,4-Trichlorobenzene	<1	2,4-Dinitrotoluene	<1	Benzo[a]anthracene	<0.15
	Endosulfan I	<0.005	Aroclor-1262	<0.2	Naphthalene	<0.2	Diethylphthalate	<1	Chrysene	<0.1
	Dieldrin	<0.005	Aroclor-1268	<0.2	4-Chloroaniline	<1	4-Chlorophenyl-Phenylether	<1	bis-(2-Ethylhexyl) Phthalate	<1
	4,4'-DDE	<0.005			Hexachlorobutadiene	<1	Flourene	<0.15	Di-n-Octylphthalate	<1
	Endrin	<0.005			4-Chloro-3-Methylphenol	<1	4-Nitroaniline	<1.5	Benzo[b]fluoranthene	<0.2
	Endosulfan II	<0.005	<b>SEMIVOLATILES</b>		2-Methylnaphthalene	<0.2	4,6-Dinitro-2-Methylphenol	<1	Benzo[k]fluoranthene	<0.15
	4,4'-DDD	<0.005	Phenol	<1	Hexachlorocyclopentadiene	<1	N-Nitrosodiphenylamine	<1	Benzo[a]pyrene	<0.15
	Endosulfan Sulfate	<0.005	bis-(2-Chloroethyl) ether	<1	2,4,6-Trichlorophenol	<1	N-Nitrosodimethylamine	<1	Indeno[1,2,3-cd]pyrene	<0.2
	4,4'-DDT	<0.005	bis-(2-Chloroisopropyl) ether	<1	2,4,5-Trichlorophenol	<1	4-Bromophenyl-Phenylether	<1	Dibenzo[a,h]anthracene	<0.15
Methoxychlor	<0.005	2-Methylphenol	<1	1,2-Diphenylhydrazene	<1	Hexachlorobenzene	<1	Benzo[g,h,i]perylene	<0.15	
Endrin Ketone	<0.005	2,2'-Oxybis-		Carbazole	<1	Pentachlorophenol	<1	Benzoic Acid	<5	
Endrin Aldehyde	<0.005	(1-Chloropropane)	<1	2-Chloronaphthalene	<0.15	Phenanthrene	<0.2	Benzyl Alcohol	<1	

### PURGEABLE VOLATILE ORGANIC COMPOUNDS (PROCEDURE 2)

Analyte	Quantitation Limit (ug/L)	Chlorobenzene	<0.5	1,1-Dichloroethane	<0.5	4-Isopropyltoluene	<0.5	Trichlorotrifluoroethane	<0.5
Acetone	<2.5	Chloroethane	<0.5	1,2-Dichloroethane	<0.5	Methylene Chloride	<2	1,2,3-Trichloropropane	<0.5
Benzene	<0.5	Chloromethane	<0.5	1,1-Dichloroethene	<0.5	Naphthalene	<0.5	1,2,3-Trimethylbenzene	<0.5
Bromoform	<0.5	2-Chlorotoluene	<0.5	cis-1,2-Dichloroethene	<0.5	Propylbenzene	<0.5	1,2,4-Trimethylbenzene	<0.5
Bromobenzene	<0.5	4-Chlorotoluene	<0.5	trans-1,2-Dichloroethene	<0.5	Styrene	<0.5	1,3,5-Trimethylbenzene	<0.5
Bromochloromethane	<0.5	2,4-Chlorotoluene	<0.5	1,2-Dichloropropane	<0.5	1,1,1,2-Tetrachloroethane	<0.5	Vinyl Acetate	<1
Bromodichloromethane	<0.5	Chloroform	<0.5	1,3-Dichloropropane	<0.5	1,1,2,2-Tetrachloroethane	<0.5	Vinyl Chloride	<0.5
Bromomethane	<0.5	Dibromomethane	<0.5	2,2-Dichloropropane	<0.5	Tetrachloroethene	<0.5	Methyl-Tert-Butyl-Ether	<0.15
z-Butylbenzene	<1	1,2-Dibro 3-Chloropropane	<0.5	1,1-Dichloropropene	<0.5	Toluene	<0.5	4-Methyl-2-pentanone	<1
n-Butylbenzene	<0.5	Dibromochloromethane	<0.5	cis-1,3-Dichloropropene	<0.5	1,2,3-Trichlorobenzene	<0.5	ethyl-tert-butylether	<0.15
sec-Butylbenzene	<0.5	1,2-Dibromoethane (EDB)	<0.5	trans-1,3-Dichloropropene	<0.5	1,2,4-Trichlorobenzene	<0.5	tert-amylmethylether	<0.15
tert-Butylbenzene	<0.5	1,2-Dichlorobenzene	<0.5	Ethylbenzene	<0.5	1,1,1-Trichloroethane	<0.5	diisopropylether	<0.15
Carbon Tetrachloride	<0.5	1,3-Dichlorobenzene	<0.5	2-Hexanone	<1	1,1,2-Trichloroethane	<0.5	tert-butanol	<0.15
Carbon Disulfide	<0.5	1,4-Dichlorobenzene	<0.5	Hexachlorobutadiene	<0.5	Trichloroethene	<0.5	o-xylene	<0.5
		Dichlorodifluoromethane	<0.5	Isopropylbenzene	<0.5	Trichlorofluoromethane	<0.5	m-xylene(1)	<0.5
								p-xylene(1)	<0.5

### METALS, CYANIDE & SULFIDE COMPOUNDS (PROCEDURE 3)

Analyte	Detection Limit (ug/L)	Beryllium	<0.01	Iron	<3	Nickel	<0.05	Vanadium	<1
Aluminum	<0.5	Cadmium	<0.03	Lead	<0.05	Potassium	<50	Zinc	<0.3
Antimony	<0.03	Calcium	<50	Magnesium	<4	Selenium	<0.5	Cyanide	<5
Arsenic	<0.01	Chromium	<0.06	Manganese	<0.1	Silver	<0.02	Flouride	<100
Barium	<0.03	Cobalt	<0.25	Mercury	<0.2	Sodium	<6	Nitrate + Nitrite	<50
		Copper	<0.08	Molybdenum	<0.5	Thallium	<0.09		



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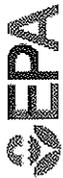
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*Matthew Macy*  
Matthew Macy, Vice President ESS, Inc

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## **Appendix 5**

### **Traffic Reports, Region Copy**



# USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 38855

R

Region: 3	Date Shipped: 8/19/2009	Carrier Name: FedEx	STATION LOCATION: SD1	INORGANIC SAMPLE No. MC2139	QC Type: --
Project Code: CT4648	Airbill: 868304289219	Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277	STATION LOCATION: SD2	INORGANIC SAMPLE No. MC2140	QC Type: --
Account Code: 2009 T 03W 302DD2C A3AXS100			STATION LOCATION: SD3	INORGANIC SAMPLE No. MC2141	QC Type: Field Duplicate of C2140
CERCLIS ID: WVD988766168			STATION LOCATION: SB1	INORGANIC SAMPLE No. MC2144	QC Type: --
Spill ID:			STATION LOCATION: SB2	INORGANIC SAMPLE No. MC2145	QC Type: Field Duplicate of C2144
Site Name/State: White Park/WV					
Project Leader: Carol Phillips					
Action: Site Inspection Reassessment					
Sampling Co: Triad Engineering, Inc.					

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNOVER	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2139	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	31 (Ice Only), 36 (Ice Only), 386 (Ice Only), 387 (Ice Only), 388 (Ice Only), 389 (Ice Only), 390 (Ice Only), 391 (Ice Only), 392 (Ice Only), 393 (Ice Only), 394 (Ice Only) (11)	SD1	S: 8/17/2009 15:28	MC2139	--
C2140	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	310 (Ice Only), 311 (Ice Only), 312 (Ice Only), 313 (Ice Only), 38 (Ice Only), 39 (Ice Only) (6)	SD2	S: 8/17/2009 14:05	MC2140	--
C2141	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	315 (Ice Only), 316 (Ice Only), 317 (Ice Only), 318 (Ice Only), 319 (Ice Only), 320 (Ice Only) (6)	SD3	S: 8/17/2009 14:20	MC2141	Field Duplicate of C2140
C2144	Subsurface Soil (>12") Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	322 (Ice Only), 323 (Ice Only), 324 (Ice Only), 325 (Ice Only), 326 (Ice Only), 327 (Ice Only), 328 (Ice Only), 329 (Ice Only), 330 (Ice Only), 331 (Ice Only), 332 (Ice Only), 333 (Ice Only), 334 (Ice Only), 335 (Ice Only) (14)	SB1	S: 8/17/2009 14:25	MC2144	--
C2145	Subsurface Soil (>12") Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	337 (Ice Only), 338 (Ice Only), 339 (Ice Only), 340 (Ice Only), 341 (Ice Only), 342 (Ice Only) (6)	SB2	S: 8/17/2009 14:27	MC2145	Field Duplicate of C2144

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____



# USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 38855

DAS No:

R

Region: 3		Date Shipped: 8/19/2009		Chain of Custody Record	
Project Code: CT4648		Carrier Name: FedEx		Sampler Signature:	
Account Code: 2009 T 03W 302DD2C A3AXS100		Airbill: 868304289219		Relinquished By (Date / Time)	
CERCLIS ID: WVD988766168		Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277		Received By (Date / Time)	
Spill ID:					
Site Name/State: White Park/VV					
Project Leader: Carol Phillips					
Action: Site Inspection Reassessment					
Sampling Co: Triad Engineering, Inc.					

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2146	Subsurface Soil (>12")/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	344 (Ice Only), 345 (Ice Only), 346 (Ice Only), 347 (Ice Only), 348 (Ice Only), 349 (Ice Only) (6)	SB3	S: 8/18/2009 11:35	MC2146	--
C2147	Subsurface Soil (>12")/ Carol Phillips	H/G	BNA (7), PCB (7), VOA (7)	351 (Ice Only), 352 (Ice Only), 353 (Ice Only), 356 (Ice Only) (4)	SB4	S: 8/18/2009 16:34	MC2147	--
C2148	Subsurface Soil (>12")/ Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	358 (Ice Only), 359 (Ice Only), 360 (Ice Only), 361 (Ice Only), 362 (Ice Only), 363 (Ice Only) (6)	SB8	S: 8/17/2009 10:24	MC2148	--
C2149	Subsurface Soil (>12")/ Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	365 (Ice Only), 366 (Ice Only), 367 (Ice Only), 368 (Ice Only), 369 (Ice Only), 370 (Ice Only) (6)	SB9	S: 8/17/2009 11:50	MC2149	--
C2150	Subsurface Soil (>12")/ Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	372 (Ice Only), 373 (Ice Only), 374 (Ice Only), 375 (Ice Only), 376 (Ice Only), 377 (Ice Only) (6)	SB10	S: 8/17/2009 15:55	MC2150	--
C2151	Subsurface Soil (>12")/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	379 (Ice Only), 380 (Ice Only), 381 (Ice Only), 382 (Ice Only), 383 (Ice Only), 384 (Ice Only) (6)	SB11	S: 8/18/2009 10:21	MC2151	--
C2155	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	395 (Ice Only) (1)	SS1	S: 8/19/2009 14:18	MC2155	--
C2156	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	397 (Ice Only) (1)	SS2	S: 8/18/2009 14:40	MC2156	--

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____
BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles			



# USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 38855

DAS No:

R

<b>Region:</b> 3 <b>Project Code:</b> CT4648 <b>Account Code:</b> 2009 T 03W 302DD2C A3AXS100 <b>CERCLIS ID:</b> WVVD988766168 <b>Spill ID:</b> <b>Site Name/State:</b> White Park/WV <b>Project Leader:</b> Carol Phillips <b>Action:</b> Site Inspection Reassessment <b>Sampling Co.:</b> Triad Engineering, Inc.		<b>Date Shipped:</b> 8/19/2009 <b>Carrier Name:</b> FedEx <b>Airbill:</b> 868304289219 <b>Shipped to:</b> A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277		<b>Chain of Custody Record</b> <table border="1"> <tr> <th>Relinquished By</th> <th>(Date / Time)</th> <th>Sampler Signature:</th> <th>Received By</th> <th>(Date / Time)</th> </tr> <tr> <td>1</td> <td>8/19/09 17:00</td> <td>[Signature]</td> <td></td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Relinquished By	(Date / Time)	Sampler Signature:	Received By	(Date / Time)	1	8/19/09 17:00	[Signature]			2					3					4				
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ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2157	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	399 (Ice Only) (1)	SS3	S: 8/18/2009 11:28	MC2157	--
C2158	Soil/Sediment/ Carol Phillips	H/G	BNA (7)	3101 (Ice Only) (1)	SS4	S: 8/18/2009 15:40	MC2158	--
C2159	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3103 (Ice Only) (1)	SS5	S: 8/17/2009 12:02	MC2159	--
C2160	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3105 (Ice Only) (1)	SS6	S: 8/17/2009 12:16	MC2160	--
C2161	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3107 (Ice Only) (1)	SS7	S: 8/17/2009 11:35	MC2161	--
C2162	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3109 (Ice Only) (1)	SS8	S: 8/17/2009 10:14	MC2162	--
C2163	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3111 (Ice Only) (1)	SS9	S: 8/17/2009 11:21	MC2163	--
C2164	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3113 (Ice Only) (1)	SS10	S: 8/18/2009 10:05	MC2164	--
C2165	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3115 (Ice Only) (1)	SS11	S: 8/18/2009 10:05	MC2165	--
C2166	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3117 (Ice Only) (1)	SS12	S: 8/19/2009 14:20	MC2166	Field Duplicate of CZ155
C2167	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3119 (Ice Only) (1)	SS15	S: 8/17/2009 10:15	MC2167	--

<b>Shipment for Case Complete? Y</b>  <b>Analysis Key:</b> BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles	<b>Sample(s) to be used for laboratory QC:</b> C2139, C2144, C2170 <b>Concentration:</b> L = Low, M = Low/Medium, H = High	<b>Additional Sampler Signature(s):</b>  <b>Type/Designate:</b> Composite = C, Grab = G	<b>Chain of Custody Seal Number:</b>  <b>Shipment iced?</b>
---	--	---	---

**TR Number: 3-043013577-081909-0002**

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# USEPA Contract Laboratory Program Inorganic Traffic Report & Chain of Custody Record

Case No: 38855

DAS No:

R

<b>Region:</b> 3 <b>Project Code:</b> CT14648 <b>Account Code:</b> 2009 T 03W 302DD2C A3AXS100 <b>CERCLIS ID:</b> WVD988766168 <b>Spill ID:</b> <b>Site Name/State:</b> White Park/WV <b>Project Leader:</b> Carol Phillips <b>Action:</b> Site Inspection Reassessment <b>Sampling Co.:</b> Triad Engineering, Inc.		<b>Date Shipped:</b> 8/19/2009 <b>Carrier Name:</b> FedEx <b>Airbill:</b> 868304289220 <b>Shipped to:</b> ALS Laboratory Group 960 West LeVoy Drive Salt Lake City, UT 84123 (801) 266-7700		<b>Chain of Custody Record</b> <b>Relinquished By:</b> <i>[Signature]</i> <b>Received By:</b> <i>[Signature]</i> <b>(Date / Time):</b> 8/19/09 17:00 <b>(Date / Time):</b> 3 4		<b>Sampler Signature:</b> <b>Received By:</b> <b>(Date / Time):</b>
--	--	---	--	--	--	---

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNOVER	PRESERVATIVE/ Bottles	TAG No./	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC2139	Sediment/ Carol Phillips	M/G	RCRA8 (7)	37 (Not preserved) (1)		SD1	S: 8/17/2009 15:28	C2139	--
MC2140	Sediment/ Carol Phillips	M/G	RCRA8 (7)	314 (Not preserved) (1)		SD2	S: 8/17/2009 14:05	C2140	--
MC2141	Sediment/ Carol Phillips	M/G	RCRA8 (7)	321 (Not preserved) (1)		SD3	S: 8/17/2009 14:20	C2141	Field Duplicate of MC2140
MC2144	Subsurface Soil (>12")/ Julie Szymanek	M/G	RCRA8 (7)	336 (Not preserved) (1)		SB1	S: 8/17/2009 14:25	C2144	--
MC2145	Subsurface Soil (>12")/ Julie Szymanek	M/G	RCRA8 (7)	343 (Not preserved) (1)		SB2	S: 8/17/2009 14:27	C2145	Field Duplicate of MC2144
MC2146	Subsurface Soil (>12")/ Carol Phillips	M/G	RCRA8 (7)	350 (Not preserved) (1)		SB3	S: 8/18/2009 11:35	C2146	--
MC2147	Subsurface Soil (>12")/ Carol Phillips	H/G	RCRA8 (7)	357 (Not preserved) (1)		SB4	S: 8/18/2009 16:34	C2147	--
MC2148	Subsurface Soil (>12")/ Julie Szymanek	M/G	RCRA8 (7)	364 (Not preserved) (1)		SB8	S: 8/17/2009 10:24	C2148	--
MC2149	Subsurface Soil (>12")/ Julie Szymanek	M/G	RCRA8 (7)	371 (Not preserved) (1)		SB9	S: 8/17/2009 11:50	C2149	--
MC2150	Subsurface Soil (>12")/ Julie Szymanek	M/G	RCRA8 (7)	378 (Not preserved) (1)		SB10	S: 8/17/2009 15:55	C2150	--

<b>Shipment for Case Complete? Y</b> <b>Analysis Key:</b> RCRA8 = RCRA 8 METALS	<b>Sample(s) to be used for laboratory QC:</b> MC2139, MC2144, MC2170	<b>Additional Sampler Signature(s):</b> _____ _____ _____	<b>Chain of Custody Seal Number:</b> _____
<b>Concentration:</b> L = Low, M = Low/Medium, H = High		<b>Type/Designate:</b> Composite = C, Grab = G	<b>Shipment Iced?</b> _____

**TR Number: 3-043013577-081909-0001**

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# USEPA Contract Laboratory Program Inorganic Traffic Report & Chain of Custody Record

Case No: 38855

DAS No:

R

Region: 3		Date Shipped: 8/19/2009		Carrier Name: FedEx		Airbill: 868304289220		Shipped to: ALS Laboratory Group 960 West LeVoy Drive Salt Lake City UT 84123 (801) 266-7700	
Project Code: CT4648		Account Code: 2009 T 03W 302DD2C A3AXSI00		CERCLIS ID: WVD988766168		Site Name/State: White Park/WV		Project Leader: Carol Phillips	
Action: Site Inspection Reassessment		Sampling Co: Triad Engineering, Inc.		Matrix/ Sampler: M/G		Conc/ Type: M/G		Analysis/ Turnaround: RCRA8 (7)	

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC2151	Subsurface Soil (>12") Carol Phillips	M/G	RCRA8 (7)	385 (Not preserved) (1)	SB11	8/18/2009 10:21	C2151	--
MC2155	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	396 (Not preserved) (1)	SS1	8/19/2009 14:18	C2155	--
MC2156	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	398 (Not preserved) (1)	SS2	8/18/2009 14:40	C2156	--
MC2157	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3100 (Not preserved) (1)	SS3	8/18/2009 11:28	C2157	--
MC2158	Soil/Sediment/ Carol Phillips	H/G	RCRA8 (7)	3102 (Not preserved) (1)	SS4	8/18/2009 15:40	C2158	--
MC2159	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3104 (Not preserved) (1)	SS5	8/17/2009 12:02	C2159	--
MC2160	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3106 (Not preserved) (1)	SS6	8/17/2009 12:16	C2160	--
MC2161	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3108 (Not preserved) (1)	SS7	8/17/2009 11:35	C2161	--
MC2162	Soil/Sediment/ Julie Szymanek	M/G	RCRA8 (7)	3110 (Not preserved) (1)	SS8	8/17/2009 10:14	C2162	--
MC2163	Soil/Sediment/ Julie Szymanek	M/G	RCRA8 (7)	3112 (Not preserved) (1)	SS9	8/17/2009 11:21	C2163	--
MC2164	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3114 (Not preserved) (1)	SS10	8/18/2009 10:05	C2164	--

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: MC2139, MC2144, MC2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: RCRA8 = RCRA 8 METALS	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____



**USEPA Contract Laboratory Program  
Inorganic Traffic Report & Chain of Custody Record**

Case No: 38855

DAS No:

**R**

Region: 3		Date Shipped: 8/19/2009		Chain of Custody Record	
Project Code: CT4648		Carrier Name: FedEx		Sampler Signature:	
Account Code: 2009 T 03W 302DD2C A3AXSI00		Airbill: 868304289220		Relinquished By (Date / Time)	
CERCLIS ID: WVD988766168		Shipped to: ALS Laboratory Group 960 West LeVoy Drive Salt Lake City UT 84123 (801) 266-7700		Received By (Date / Time)	
Spill ID:					
Site Name/State: White Park/WV					
Project Leader: Carol Phillips					
Action: Site Inspection Reassessment					
Sampling Co: Triad Engineering, Inc.					

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNOVER	PRESERVATIVE/ Bottles	TAG No./	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC2165	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3116 (Not preserved) (1)		SS11	S: 8/18/2009 10:05	C2165	--
MC2166	Soil/Sediment/ Julie Szymanek	M/G	RCRA8 (7)	3118 (Not preserved) (1)		SS12	S: 8/19/2009 14:20	C2166	Field Duplicate of MC2155
MC2167	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3120 (Not preserved) (1)		SS15	S: 8/17/2009 10:15	C2167	--
MC2168	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3122 (Not preserved) (1)		SS16	S: 8/17/2009 16:19	C2168	--
MC2170	Surface Water/ Carol Phillips	M/G	RCRA8 (7)	3132 (Not preserved), 3133 (Not preserved), 3134 (Not preserved) (3)		SW1	S: 8/17/2009 15:54	C2170	--
MC2171	Surface Water/ Carol Phillips	M/G	RCRA8 (7)	3138 (Not preserved) (1)		SW2	S: 8/17/2009 13:55	C2171	--
MC2172	Surface Water/ Carol Phillips	M/G	RCRA8 (7)	3142 (Not preserved) (1)		SW3	S: 8/17/2009 14:10	C2172	Field Duplicate of MC2171

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: MC2139, MC2144, MC2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: RCRA8 = RCRA & METALS	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

**TR Number: 3-043013577-081909-0001**

PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
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# USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 38855  
DAS No:

R

Region: 3	Date Shipped: 8/19/2009	Carrier Name: FedEx	8/19/2009	Sampler Signature:
Project Code: CT4648	Carrier Name: 868304289219	Airbill: A4 Scientific	1544 Sawdust Road	Received By:
Account Code: 2009 T 03W 302DD2C A3AXSI00	Shipped to: Suite 505	The Woodlands TX 77380	(281) 292-5277	(Date / Time)
CERCLIS ID: WVD988766168	White Park/WV	Carol Phillips		
Spill ID:	Site Inspection Reassessment	Triad Engineering, Inc.		
Site Name/State:				
Project Leader:				
Action:				
Sampling Co:				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNOVER	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2168	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3121 (Ice Only) (1)	SS16	S: 8/17/2009 16:19	MC2168	--
C2170	Surface Water/ Carol Phillips	M/G	BNA (7), VOA (7)	3123 (Ice Only), 3124 (Ice Only), 3125 (Ice Only), 3126 (HCL), 3127 (HCL), 3128 (HCL), 3129 (HCL), 3130 (HCL), 3131 (HCL) (9), 3135 (Ice Only), 3136 (HCL), 3137 (HCL) (3)	SW1	S: 8/17/2009 15:54	MC2170	--
C2171	Surface Water/ Carol Phillips	M/G	BNA (7), VOA (7)		SW2	S: 8/17/2009 13:55	MC2171	--
C2172	Surface Water/ Carol Phillips	M/G	BNA (7), VOA (7)	3139 (Ice Only), 3140 (HCL), 3141 (HCL) (3)	SW3	S: 8/17/2009 14:10	MC2172	Field Duplicate OKZ (7)
C2173	Surface Water/ Carol Phillips	M/G	VOA (7)	3143 (HCL), 3144 (HCL) (2)	SW4	S: 8/17/2009 16:15		Trip Blank

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced?

**Appendix 6**  
**Site Photographs**



**Photograph # 1:**  
SS15



**Photograph # 2:**  
SS7



**Photograph # 3:**  
SW/SD2



**Photograph # 4:**  
Cobun Creek Reservoir at SW/SD2



**Photograph # 5:**  
SW/SD1



**Photograph # 7:**  
SS/SB11



**Photograph # 8:**  
SS/SB4 – Free product at surface



**Photograph # 9:**  
SS/SB4 – Free product at surface



**Photograph # 10:**  
T-40, Area of Concern

## **Appendix 7**

### **Boring Logs**

# TEST BORING LOG

Sheet 1 of 1

Project Number: **01-09-0110**  
 Inspector: **JAS**  
 Date Started: **8/17/09**  
 Date Completed: **8/17/09**

Project Name: **White Park LERCLA Site**  
 Boring Location: **See Boring Location Plan**  
 Drill/Method: **Direct Push Auger**  
 Driller: **MR**

Boring No.: **SB-01**

Ground Elev.: \_\_\_\_\_

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	<div style="display: flex; justify-content: space-between; font-size: small;"> <span>■ Shelby Tube</span> <span>⊠ Standard Split Spoon</span> </div> <div style="display: flex; justify-content: space-between; font-size: small;"> <span>▬ Core Sample</span> <span>⏏ Auger Probe</span> </div>	RQD (Strata)	Water Level	Graphic Log	Strata Elevation	
							MATERIAL DESCRIPTION					
						2.0	CLAY, silty			▨		
						5.0	SANDSTONE, very weathered			⋯		
						8.0	<b>Auger Refusal at 8.0 feet.</b> Boring Terminated at 8.0 feet.					
						10.0						
						15.0						

TRIAD\_C WHITE PARK LERCLA SITE.GPJ TRIAD 3.GDT 11/30/09



219 Hartman Run Road  
 Morgantown, WV 26505  
 304.296.2562  
 Fax: 304.296.8739

Remarks:

# TEST BORING LOG

Sheet 1 of 1

Project Number: **01-09-0110**  
 Inspector: CLP  
 Date Started: 8/18/09  
 Date Completed: 8/18/09

Project Name: **White Park LERCLA Site**  
 Boring Location: See Boring Location Plan  
 Drill/Method: Direct Push Auger  
 Driller: MR

Boring No.: **SB-03**

Ground Elev.: \_\_\_\_\_

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
						0.5	Light orange SILT				
							Orange CLAY, silty				
						7.0	SANDSTONE, very weathered				
						9.0	<b>Auger refusal at 9.0 feet.</b> Boring Terminated at 9.0 feet.				
5.0											
10.0											
15.0											

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 Morgantown, WV 26505  
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Remarks:

# TEST BORING LOG

Sheet 1 of 1

Project Number: **01-09-0110**  
 Inspector: CLP  
 Date Started: 8/18/09  
 Date Completed: 8/18/09

Project Name: **White Park LERCLA Site**  
 Boring Location: See Boring Location Plan  
 Drill/Method: Hand Auger  
 Driller: CLP

Boring No.: **SB-04**

Ground Elev.: \_\_\_\_\_

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
						0.1 0.3	Black PRODUCT, hard Light gray TAR SUBSTANCE, strong odor Dark gray TAR SUBSTANCE, strong odor				
5.0						5.0	<b>Hand Auger Refusal at 5.0 feet.</b> Boring Terminated at 5.0 feet.				
10.0											
15.0											

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Remarks:

# TEST BORING LOG

Sheet 1 of 1

Project Number: **01-09-0110**  
 Inspector: **JAS**  
 Date Started: **8/17/09**  
 Date Completed: **8/17/09**

Project Name: **White Park LERCLA Site**  
 Boring Location: **See Boring Location Plan**  
 Drill/Method: **Direct Push Auger**  
 Driller: **MR**

Boring No.: **SB-08**

Ground Elev.: \_\_\_\_\_

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
						0.4	TOPSOIL				
						0.8	GRAVEL				
							SAND, moist, poor recovery				
						5.0	SAND, moist				
						8.0	CLAY, moist				
						9.0	SANDSTONE, very weathered				
						10.0	<b>Auger Refusal at 10.0 feet.</b> Boring Terminated at 10.0 feet.				
						15.0					

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Remarks:

# TEST BORING LOG

Sheet 1 of 1

Project Number: **01-09-0110**  
 Inspector: **JAS**  
 Date Started: **8/17/09**  
 Date Completed: **8/17/09**

Project Name: **White Park LERCLA Site**  
 Boring Location: **See Boring Location Plan**  
 Drill/Method: **Direct Push Auger**  
 Driller: **MR**

Boring No.: **SB-09**

Ground Elev.: \_\_\_\_\_

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p> Shelby Tube</p> <p> Core Sample</p> </div> <div style="width: 45%;"> <p> Standard Split Spoon</p> <p> Auger Probe</p> </div> </div>				
						1.5	CLAY, silty				
						3.0	CLAY, some silt				
						3.2	SANDSTONE FRAGMENTS, very weathered				
						4.5	CLAY, silty				
						4.5	<b>Auger Refusal at 4.5 feet.</b> Boring Terminated at 4.5 feet.				
5.0											
10.0											
15.0											

TRIAD\_C WHITE PARK LERCLA SITE.GPJ TRIAD 3.GDT 11/30/09



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Remarks:

# TEST BORING LOG

Sheet 1 of 1

Project Number: **01-09-0110**  
 Inspector: **JAS**  
 Date Started: **8/18/09**  
 Date Completed: **8/18/09**

Project Name: **White Park LERCLA Site**  
 Boring Location: **See Boring Location Plan**  
 Drill/Method: **Direct Push Auger**  
 Driller: **MR**

Boring No.: **SB-10**

Ground Elev.: \_\_\_\_\_

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							CLAY, silty				
						2.5	SANDSTONE FRAGMENTS				
						5.0	CLAY, very stiff				
						9.0	SANDSTONE FRAGMENTS				
						9.5	CLAY, very stiff				
						10.0	<b>Auger Refusal at 10.0 feet.</b> Boring Terminated at 10.0 feet.				
						15.0					

TRIAD\_C WHITE PARK LERCLA SITE.GPJ TRIAD 3.GDT 11/30/09



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Remarks:

# TEST BORING LOG

Sheet 1 of 1

Project Number: **01-09-0110**  
 Inspector: CLP  
 Date Started: 8/18/09  
 Date Completed: 8/18/09

Project Name: **White Park LERCLA Site**  
 Boring Location: See Boring Location Plan  
 Drill/Method: Direct Push Auger  
 Driller: MR

Boring No.: **SB-11**

Ground Elev.: \_\_\_\_\_

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							CLAY, silty			▨	
						2.0	CLAY, sandy			▨	
						6.5	SANDSTONE, very weathered			▨	
						7.0	<b>Auger Refusal at 7.0 feet.</b> Boring Terminated at 7.0 feet.			▨	
5.0											
10.0											
15.0											

TRIAD\_C WHITE PARK LERCLA SITE.GPJ TRIAD 3.GDT 11/30/09



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 Morgantown, WV 26505  
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 Fax: 304.296.8739

Remarks:

**Appendix 8**  
**Analytical Results**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
Environmental Sciences Center  
701 Mapes Road  
Fort Meade, Maryland 20755-5350

DATE: September 3, 2009  
SUBJECT: Region III Data QA Review  
FROM: Colleen K. Walling *Colleen K. Walling*  
Region III ESAT RPO (3EA21)  
TO: James Hargett  
Site Assessment Manager (3HS12)

Attached is the inorganic data validation report for the *White Park* site (Case # 38855; SDG #: C2139) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call Mike Mahoney at (410)305-2631 or me at (410) 305-2763.

Attachments

cc: Pamela Hayes (WVDEP)  
Lydia Work (TRIAD)

TO File #: 0021      TDF#: 08111

ANALYTICAL SERVICE AND QUALITY ASSURANCE BRANCH



Lockheed Martin Information Technology  
ESAT Region 3  
US EPA Environmental Science Center  
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**DATE:** September 2, 2009

**SUBJECT:** Organic Data Validation (Level M2)  
Site: White Park  
Case: 38855 SDG: C2139

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### OVERVIEW

Case 38855, Sample Delivery Group (SDG) C2139, consisted of ten (10) soil samples analyzed for volatile, semivolatile and Aroclor compounds in addition to ten (10) additional soil samples analyzed for semivolatile compounds. All samples were analyzed by A4 Scientific (A4). The sample set contained three (3) field duplicate pairs. Samples were analyzed according to Contract Laboratory Program (CLP) Statement of Work (SOW) SOM01.2 through the Routine Analysis Services (RAS) program.

### SUMMARY

Validation of data was performed according to Innovative Approaches to Data Validation, Level M2. This level of review includes assessment of all Quality Assurance/Quality Control (QA/QC) data and review of chromatograms, but excludes review of spectra and raw data.

It should be noted that in SOM01.2, 1,4-dioxane is no longer a target analyte by Trace VOA and Trace VOA SIM analyses. Using SOM01.2 for the detection and reporting of 1,4-dioxane at low and medium levels has not consistently generated data of sufficiently known quality. This is due to poor purge efficiency. Results for 1,4-dioxane using this method should be considered advisory.

The associated trip blank contained in Case 38855, SDG C2170, was utilized to assess field contamination. Results for this blank are included in Appendix C.

**MAJOR PROBLEMS**

- In the semivolatile analyses, recoveries of Deuterated Monitoring Compound (DMC) 4-chloroaniline-d4 were zero (0) in samples C2145, C2146, C2150, C2151, C2155, C2157, C2161, C2163 and C2164. No positive results were reported for compounds associated with this DMC. Quantitation limits for compounds associated with this DMC in these samples were rejected and qualified "R" on the Data Summary Forms (DSFs).

**MINOR PROBLEMS**

- In the volatile analyses, recoveries of DMCs listed below were outside the lower control limits in samples given. The "L" qualifier for positive results for compounds associated with these DMCs in these samples has been superseded by "B". Quantitation limits for compounds associated with these DMCs in these samples were qualified "UL" on the DSFs.

<u>DMC</u>	<u>Sample(s)</u>
vinyl chloride-d3	C2145
1,2-dichloroethane-d4	C2140, C2141, C2148
benzene-d6	C2145
toluene-d8	C2145

- In the volatile analyses, recovery of DMC toluene-d8 was outside the upper control limit in sample C2147. Positive results for compounds associated with this DMC in this analysis of this sample were qualified "K" on the DSF.
- In the semivolatile analyses, recoveries of DMCs listed below were outside the lower control limits in samples given. The "L" qualifier for positive results for compounds associated with these DMCs in these samples has been superseded by "J". Quantitation limits for compounds associated with these DMCs in these samples were qualified "UL" on the DSFs.

<u>DMC</u>	<u>Sample(s)</u>
dimethylphthalate-d6	C2145, C2148
pyrene-d10	C2145, C2148
benzo(a) pyrene-d12	C2148, C2151, C2163

- Several compounds failed precision criteria [Percent Relative Standard Deviation (%RSD) and/or Percent Difference (%D)] in the volatile and semivolatile initial and/or continuing calibrations. The positive result for acetone and indeno (1,2,3-cd)pyrene in associated samples were qualified "J" on the DSFs unless superseded by "B". No precisions were greater than fifty percent (>50%). Therefore, no quantitation limits were qualified based on these findings.

**NOTES**

- Compounds detected below Contract Required Quantitation Limits (CRQLs) were qualified "J" on the DSFs unless superseded by "B".
- Tentatively Identified Compounds (TICs) were reviewed during data validation. TICs identified as the same compound at different retention times were changed to unknown by the reviewer. TICs identified as blank contaminants were crossed off the TIC Form Is by the reviewer. TIC Form Is for samples in which TICs were identified are included in Appendix E.
- In the volatile analyses, recovery of DMC 1,2-dichloropropane-d6 in sample C2147 was outside the upper control limit. No positive results associated with this DMC were reported in this sample. Therefore, no data were qualified base on this finding.
- Based on sample screening, volatile sample C2147 was initially analyzed at medium level. The CRQLs are elevated in this sample due to this dilution.
- Semivolatile samples C2147 and C2158 were initially analyzed at 50X and 54.55X dilutions, respectively. The CRQLs are elevated in these samples due to these dilutions.
- Volatile sample C2147 was re-analyzed at a 1938X dilution because the detected concentrations of cyclohexane, methylcyclohexane, m&p-xylene and o-xylene exceeded the linear calibration range in the initial analysis. The positive results for these compounds in this sample were reported from the dilution by the reviewer and annotated with a "+" on the DSFs.
- The volatile soil samples were collected utilizing Encore samplers. The samples were placed in a freezer upon sample receipt until sample analysis.
- Sample weights other than five (5) grams in the volatile analyses and other than thirty (30) grams in the semivolatile and Aroclor analyses were used by the laboratory. The dilution factors on the DSFs reflect this variance in sample weights.
- The Aroclor Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses of sample C2139 reported a Relative Percent Difference (RPD) for Aroclor-1016 outside the control limit on column DB-XLB.
- Aroclor Laboratory Control Sample (LCS) analyses reported all recoveries within control limits.

- Results reported for the field duplicate pair, C2140/C2141, were comparable with the exception of benzaldehyde.
- Sample C2145 was designated as the field duplicate of sample C2144 and sample C2155 was designated as the field duplicate of sample C2166 on the Chain of Custody (COC) records. Samples C2144 and C2166 were included in SDG C2144. Results for these samples are included in Appendix C. No positive results, other than blank contaminants, were reported in these sample pairs with the exception of benzaldehyde in samples pair C2144/C2145.
- Due to a smell of gasoline in samples C2147 and C2158, no percent moisture determinations were performed by the laboratory for these samples. A percent moisture of zero (0) for these samples was reported on the DSFs.
- Concentrations of target compounds found in the analysis of samples' associated trip, method, and storage blanks are listed below. Only compounds used to qualify data are listed. Samples with concentrations of these common laboratory contaminants less than ten times (<10X) blank concentrations have been qualified "B" on the DSFs. Concentration units are in µg/L.

<u>Blank</u>	<u>Compound</u>	<u>Concentration</u>	<u>Affected Samples</u>
Trip (C2173)	acetone	2.1 J	C2139, C2141, C2145, C2146, C2148, C2150, C2151
	methylene chloride	1.1	All Samples Except C2147, C2150

All data for Case 38855, SDG C2139, were reviewed in accordance with the Region 3 Innovative Approaches for Validation of Organic Data (Level M2), June 1995.

### ATTACHMENTS

- 1) Appendix A - Glossary of Data Qualifiers
- 2) Appendix B - Data Summary Forms
- 3) Appendix C - Chain of Custody (COC) Records
- 4) Appendix D - Laboratory Case Narrative
- 5) Appendix E - Tentatively Identified Compounds (TICs)

DCN: 38855M2

## **Appendix A**

### **Glossary of Data Qualifiers**

## GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

### CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

NO CODE = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

### CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

### OTHER CODES

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

Q = No analytical result.

## **Appendix B**

Data Summary Forms



Case #: 38855

SDG : C2139

Site :

WHITE PARK

Lab. :

A4

Sample Number :	C2139	C2140	C2141	C2145	C2146						
Sampling Location :	SD1	SD2	SD3	SB2	SB3						
Field QC:		Field Dup. of C2141	Field Dup. of C2140	Field Dup. of C2144							
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	15:28	14:05	14:20	14:27	11:35						
%Moisture :	25.3	21.1	24.3	9.2	6.2						
Dilution Factor :	0.97	1.13	1.03	1.17	1.43						
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	5.0										
Tetrachloroethene	5.0							UL			
2-Hexanone	10										
Dibromochloromethane	5.0										
1,2-Dibromoethane	5.0			UL		UL					
Chlorobenzene	5.0										
Ethylbenzene	5.0							UL			
o-Xylene	5.0							UL			
m,p-Xylene	5.0							UL			
Styrene	5.0							UL			
Bromoforn	5.0										
Isopropylbenzene	5.0							UL			
1,1,2,2-Tetrachloroethane	5.0										
1,3-Dichlorobenzene	5.0										
1,4-Dichlorobenzene	5.0										
1,2-Dichlorobenzene	5.0										
1,2-Dibromo-3-chloropropane	5.0										
1,2,4-Trichlorobenzene	5.0										
1,2,3-Trichlorobenzene	5.0										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

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Case #: 38855

SDG : C2139

Site :

WHITE PARK

Lab. :

A4

Sample Number :	C2147	C2148	C2149	C2150	C2151						
Sampling Location :	SB4	SB8	SB9	SB10	SB11						
Field QC:											
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/18/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	16:34	10:24	11:50	15:55	10:21						
%Moisture :	0	18.3	15.3	14.9	11.8						
Dilution Factor :	48.4/1938	1.20	0.91	1.02	0.89						
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	5.0										
Chloromethane	5.0										
Vinyl chloride	5.0										
Bromomethane	5.0										
Chloroethane	5.0										
Trichlorofluoromethane	5.0			UL							
1,1-Dichloroethene	5.0				UL						
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0				UL						
Acetone	10			10	B			10	B	5.1	B
Carbon Disulfide	5.0										
Methyl acetate	5.0				UL						
Methylene chloride	5.0	560		13	B	10	B	15		9.7	B
trans-1,2-Dichloroethene	5.0										
Methyl tert-butyl ether	5.0				UL						
1,1-Dichloroethane	5.0										
cis-1,2-Dichloroethene	5.0										
2-Butanone	10			5.1	J						
Bromochloromethane	5.0										
Chloroform	5.0										
1,1,1-Trichloroethane	5.0				UL						
Cyclohexane	5.0	28000+									
Carbon tetrachloride	5.0				UL						
Benzene	5.0	3100									
1,2-Dichloroethane	5.0	300			UL						
1,4-Dioxane	100										
Trichloroethene	5.0										
Methylcyclohexane	5.0	92000+									
1,2-Dichloropropane	5.0										
Bromodichloromethane	5.0										
cis-1,3-Dichloropropene	5.0										
4-Methyl-2-pentanone	10										
Toluene	5.0										
trans-1,3-Dichloropropene	5.0										

+ = Result reported from the diluted analysis.

Case #: 38855  
 Site :  
 Lab. :

SDG : C2139  
 WHITE PARK  
 A4

Sample Number :	C2147	C2148	C2149	C2150	C2151						
Sampling Location :	SB4	SB8	SB9	SB10	SB11						
Field QC:											
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/18/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	16:34	10:24	11:50	15:55	10:21						
%Moisture :	0	18.3	15.3	14.9	11.8						
Dilution Factor :	48.4/1938	1.20	0.91	1.02	0.89						
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	5.0										
Tetrachloroethene	5.0										
2-Hexanone	10	18000									
Dibromochloromethane	5.0										
1,2-Dibromoethane	5.0			UL							
Chlorobenzene	5.0										
Ethylbenzene	5.0	9000	K								
o-Xylene	5.0	11000+									
m,p-Xylene	5.0	50000+									
Styrene	5.0	460	K								
Bromoform	5.0										
Isopropylbenzene	5.0	3900	K								
1,1,2,2-Tetrachloroethane	5.0	3400									
1,3-Dichlorobenzene	5.0										
1,4-Dichlorobenzene	5.0										
1,2-Dichlorobenzene	5.0										
1,2-Dibromo-3-chloropropane	5.0										
1,2,4-Trichlorobenzene	5.0										
1,2,3-Trichlorobenzene	5.0										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

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+ = Result reported from the diluted analysis.



Case #: 38855  
 Site :  
 Lab. :

SDG : C2139  
 WHITE PARK  
 A4

Sample Number :	C2139	C2140	C2141	C2145	C2146						
Sampling Location :	SD1	SD2	SD3	SB2	SB3						
Field QC:		Field Dup. of C2141	Field Dup. of C2140	Field Dup. of C2144							
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	15:28	14:05	14:20	14:27	11:35						
%Moisture :	25.3	21.1	24.3	9.2	6.2						
Dilution Factor :	0.99	0.99	1.0	0.99	0.99						
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	330										
4-Nitrophenol	330										
Dibenzofuran	170										
2,4-Dinitrotoluene	170										
Diethylphthalate	170							UL			
Fluorene	170										
4-Chlorophenyl-phenylether	170										
4-Nitroaniline	330										
4,6-Dinitro-2-methylphenol	330										
N-Nitrosodiphenylamine	170										
1,2,4,5-Tetrachlorobenzene	170										
4-Bromophenyl-phenylether	170										
Hexachlorobenzene	170										
Atrazine	170										
Pentachlorophenol	330										
Phenanthrene	170	480									
Anthracene	170	49	J								
Carbazole	170	69	J								
Di-n-butylphthalate	170								UL		
Fluoranthene	170	1200							UL		
Pyrene	170	910							UL		
Butylbenzylphthalate	170								UL		
3,3'-Dichlorobenzidine	170								R		R
Benzo(a)anthracene	170	460							UL		
Chrysene	170	540							UL		
Bis(2-ethylhexyl)phthalate	170	140	J						UL		
Di-n-octylphthalate	170								UL		
Benzo(b)fluoranthene	170	510									
Benzo(k)fluoranthene	170	530									
Benzo(a)pyrene	170	500									
Indeno(1,2,3-cd)pyrene	170	540	J								
Dibenzo(a,h)anthracene	170										
Benzo(g,h,i)perylene	170	380									
2,3,4,6-Tetrachlorophenol	170										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

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Case #: 38855  
 Site :  
 Lab. :

SDG : C2139  
 WHITE PARK  
 A4

Sample Number :	C2147	C2148	C2149	C2150	C2151						
Sampling Location :	SB4	SB8	SB9	SB10	SB11						
Field QC:											
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/18/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	16:34	10:24	11:50	15:55	10:21						
%Moisture :	0	18.3	15.3	14.9	11.8						
Dilution Factor :	50.0	1.0	1.0	1.0	0.99						
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	330										
4-Nitrophenol	330										
Dibenzofuran	170										
2,4-Dinitrotoluene	170										
Diethylphthalate	170			UL							
Fluorene	170										
4-Chlorophenyl-phenylether	170										
4-Nitroaniline	330										
4,6-Dinitro-2-methylphenol	330										
N-Nitrosodiphenylamine	170										
1,2,4,5-Tetrachlorobenzene	170										
4-Bromophenyl-phenylether	170										
Hexachlorobenzene	170										
Atrazine	170										
Pentachlorophenol	330										
Phenanthrene	170	2300	J							23	J
Anthracene	170									5.2	J
Carbazole	170										
Di-n-butylphthalate	170			UL							
Fluoranthene	170			UL						65	J
Pyrene	170			UL						54	J
Butylbenzylphthalate	170			UL							
3,3'-Dichlorobenzidine	170								R		R
Benzo(a)anthracene	170			UL						33	J
Chrysene	170			UL						34	J
Bis(2-ethylhexyl)phthalate	170			UL						28	J
Di-n-octylphthalate	170			UL							
Benzo(b)fluoranthene	170			UL						28	J
Benzo(k)fluoranthene	170			UL						23	J
Benzo(a)pyrene	170			UL							UL
Indeno(1,2,3-cd)pyrene	170			UL							UL
Dibenzo(a,h)anthracene	170			UL							UL
Benzo(g,h,i)perylene	170			UL						18	J
2,3,4,6-Tetrachlorophenol	170										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / [(100 - %Moisture) / 100]

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Case #: 38855  
 Site :  
 Lab. :

SDG : C2139  
 WHITE PARK  
 A4

Sample Number :	C2155	C2156	C2157	C2158	C2159						
Sampling Location :	SS1	SS2	SS3	SS4	SS5						
Field QC:	Field Dup. of C2166										
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/19/2009	8/18/2009	8/18/2009	8/18/2009	8/17/2009						
Time Sampled :	14:18	14:40	11:28	15:40	12:02						
%Moisture :	10.0	13.8	10.8	0	24.8						
Dilution Factor :	1.0	1.0	0.99	54.55	0.98						
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	330										
4-Nitrophenol	330										
Dibenzofuran	170										
2,4-Dinitrotoluene	170										
Diethylphthalate	170										
Fluorene	170										
4-Chlorophenyl-phenylether	170										
4-Nitroaniline	330										
4,6-Dinitro-2-methylphenol	330										
N-Nitrosodiphenylamine	170										
1,2,4,5-Tetrachlorobenzene	170										
4-Bromophenyl-phenylether	170										
Hexachlorobenzene	170										
Atrazine	170										
Pentachlorophenol	330										
Phenanthrene	170							1800	J		
Anthracene	170										
Carbazole	170										
Di-n-butylphthalate	170										
Fluoranthene	170										
Pyrene	170										
Butylbenzylphthalate	170										
3,3'-Dichlorobenzidine	170		R				R				
Benzo(a)anthracene	170										
Chrysene	170										
Bis(2-ethylhexyl)phthalate	170										
Di-n-octylphthalate	170										
Benzo(b)fluoranthene	170										
Benzo(k)fluoranthene	170										
Benzo(a)pyrene	170										
Indeno(1,2,3-cd)pyrene	170										
Dibenzo(a,h)anthracene	170										
Benzo(g,h,i)perylene	170										
2,3,4,6-Tetrachlorophenol	170										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99



Case #: 38855

SDG : C2139

Site :

WHITE PARK

Lab. :

A4

Sample Number :	C2160	C2161	C2162	C2163	C2164							
Sampling Location :	SS6	SS7	SS8	SS9	SS10							
Field QC:												
Matrix :	Soil	Soil	Soil	Soil	Soil							
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg							
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009							
Time Sampled :	12:16	11:35	10:14	11:21	10:05							
%Moisture :	21.6	23.9	11.3	16.9	10.4							
Dilution Factor :	1.0	1.0	0.99	1.0	0.99							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	
2,4-Dinitrophenol	330											
4-Nitrophenol	330											
Dibenzofuran	170											
2,4-Dinitrotoluene	170											
Diethylphthalate	170											
Fluorene	170											
4-Chlorophenyl-phenylether	170											
4-Nitroaniline	330											
4,6-Dinitro-2-methylphenol	330											
N-Nitrosodiphenylamine	170											
1,2,4,5-Tetrachlorobenzene	170											
4-Bromophenyl-phenylether	170											
Hexachlorobenzene	170											
Atrazine	170											
Pentachlorophenol	330											
Phenanthrene	170	70	J	260						31	J	
Anthracene	170	10	J	43	J							
Carbazole	170			39	J							
Di-n-butylphthalate	170											
Fluoranthene	170	110	J	530						88	J	
Pyrene	170	85	J	370						64	J	
Butylbenzylphthalate	170											
3,3'-Dichlorobenzidine	170				R					R	R	
Benzo(a)anthracene	170	56	J	260						51	J	
Chrysene	170	56	J	240						49	J	
Bis(2-ethylhexyl)phthalate	170											
Di-n-octylphthalate	170											
Benzo(b)fluoranthene	170	32	J	170	J					UL	26	J
Benzo(k)fluoranthene	170	51	J	240						UL	41	J
Benzo(a)pyrene	170			180	J					UL		
Indeno(1,2,3-cd)pyrene	170	34	J	210	J					UL		
Dibenzo(a,h)anthracene	170									UL		
Benzo(g,h,i)perylene	170			130	J					UL	25	J
2,3,4,6-Tetrachlorophenol	170											

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99

Case #: 38855  
 Site :  
 Lab. :

SDG : C2139  
 WHITE PARK  
 A4

Number of Soil Samples : 10  
 Number of Water Samples : 0

Sample Number :	C2139	C2140	C2141	C2145	C2146						
Sampling Location :	SD1	SD2	SD3	SB2	SB3						
Field QC:		Field Dup. of C2141	Field Dup. of C2140	Field Dup. of C2144							
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	15:28	14:05	14:20	14:27	11:35						
%Moisture :	25.3	21.1	24.3	9.2	6.2						
Dilution Factor :	0.99	1.0	0.99	0.99	1.0						
Aroclor Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aroclor-1016	33										
Aroclor-1221	33										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										
Aroclor-1262	33										
Aroclor-1268	33										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99

Sample Number :	C2147	C2148	C2149	C2150	C2151						
Sampling Location :	SB4	SB8	SB9	SB10	SB11						
Field QC:											
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/18/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	16:34	10:24	11:50	15:55	10:21						
%Moisture :	0	18.3	15.3	14.9	11.8						
Dilution Factor :	1.0	0.99	0.99	1.0	1.0						
Aroclor Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aroclor-1016	33										
Aroclor-1221	33										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										
Aroclor-1262	33										
Aroclor-1268	33										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99

## **Appendix C**

### **Chain of Custody (COC) Records**



# USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 38855  
DAS No: R

Region: 3	Date Shipped: 8/19/2009	Carrier Name: FedEx	STATION LOCATION: SD1
Project Code: CT4648	Airbill: 868304289219	Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277	INORGANIC SAMPLE No. MC2139
Account Code: 2009 T 03W 302DD2C A3AXSI00			
CERCLIS ID: WVD988766168			
Spill ID:			
Site Name/State: White Park/WV			
Project Leader: Carol Phillips			
Action: Site Inspection Reassessment			
Sampling Co: Triad Engineering, Inc.			

Chain of Custody Record	
Relinquished By: <i>[Signature]</i>	Received By: _____
(Date / Time): 8/19/09 1:20	(Date / Time): _____
2	
3	
4	

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	PRESERVATIVE/ Bottles	TAG No./	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2139	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	31 (Ice Only), 36 (Ice Only), 386 (Ice Only), 387 (Ice Only), 388 (Ice Only), 389 (Ice Only), 390 (Ice Only), 391 (Ice Only), 392 (Ice Only), 393 (Ice Only), 394 (Ice Only) (11)	SD1	S: 8/17/2009	15:28	MC2139	--
C2140	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	310 (Ice Only), 311 (Ice Only), 312 (Ice Only), 313 (Ice Only), 38 (Ice Only), 39 (Ice Only) (6)	SD2	S: 8/17/2009	14:05	MC2140	--
C2141	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	315 (Ice Only), 316 (Ice Only), 317 (Ice Only), 318 (Ice Only), 319 (Ice Only), 320 (Ice Only) (6)	SD3	S: 8/17/2009	14:20	MC2141	Field Duplicate of C2140
C2144	Subsurface Soil (>12") Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	322 (Ice Only), 323 (Ice Only), 324 (Ice Only), 325 (Ice Only), 326 (Ice Only), 327 (Ice Only), 328 (Ice Only), 329 (Ice Only), 330 (Ice Only), 331 (Ice Only), 332 (Ice Only), 333 (Ice Only), 334 (Ice Only), 335 (Ice Only) (14)	SB1	S: 8/17/2009	14:25	MC2144	--
C2145	Subsurface Soil (>12") Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	337 (Ice Only), 338 (Ice Only), 339 (Ice Only), 340 (Ice Only), 341 (Ice Only), 342 (Ice Only) (6)	SB2	S: 8/17/2009	14:27	MC2145	Field Duplicate of C2144

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLOORS), VOA = CLP TCL Volatiles	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

**TR Number: 3-043013577-081909-0002**  
 PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
 Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819, Phone 703/818-4200; Fax 703/818-4602

**REGION COPY**



# USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 38855  
DAS No: R

Region: 3	Date Shipped: 8/19/2009	Chain of Custody Record	
Project Code: CT4648	Carrier Name: FedEx	Sampler Signature:	
Account Code: 2009 T 03W 302DD2C A3AXS100	Airbill: 868304288219	Relinquished By (Date / Time)	Received By (Date / Time)
CERCLIS ID: WVD988766168	Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277	<i>[Signature]</i>	
Spill ID:		2	
Site Name/State: White Park/WV		3	
Project Leader: Carol Phillips		4	
Action: Site Inspection Reassessment			
Sampling Co: Triad Engineering, Inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No/ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2146	Subsurface Soil (>12") Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	344 (Ice Only), 345 (Ice Only), 346 (Ice Only), 347 (Ice Only), 348 (Ice Only), 349 (Ice Only) (6)	SB3	S: 8/18/2009 11:35	MC2146	--
C2147	Subsurface Soil (>12") Carol Phillips	H/G	BNA (7), PCB (7), VOA (7)	351 (Ice Only), 352 (Ice Only), 353 (Ice Only), 356 (Ice Only) (4)	SB4	S: 8/18/2009 16:34	MC2147	--
C2148	Subsurface Soil (>12") Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	358 (Ice Only), 359 (Ice Only), 360 (Ice Only), 361 (Ice Only), 362 (Ice Only), 363 (Ice Only) (6)	SB8	S: 8/17/2009 10:24	MC2148	--
C2149	Subsurface Soil (>12") Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	365 (Ice Only), 366 (Ice Only), 367 (Ice Only), 368 (Ice Only), 369 (Ice Only), 370 (Ice Only) (6)	SB9	S: 8/17/2009 11:50	MC2149	--
C2150	Subsurface Soil (>12") Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	372 (Ice Only), 373 (Ice Only), 374 (Ice Only), 375 (Ice Only), 376 (Ice Only), 377 (Ice Only) (6)	SB10	S: 8/17/2009 15:55	MC2150	--
C2151	Subsurface Soil (>12") Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	379 (Ice Only), 380 (Ice Only), 381 (Ice Only), 382 (Ice Only), 383 (Ice Only), 384 (Ice Only) (6)	SB11	S: 8/18/2009 10:21	MC2151	--
C2155	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	395 (Ice Only) (1)	SS1	S: 8/19/2009 14:18	MC2155	--
C2156	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	397 (Ice Only) (1)	SS2	S: 8/18/2009 14:40	MC2156	--

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: BNA = CLP TCL Semivolatiles; PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

**TR Number: 3-043013577-081909-0002**  
 PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
 Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

REGION COPY



# USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 38855

DAS No:

R

Region: 3	Date Shipped: 8/19/2009	Chain of Custody Record	
Project Code: CT4648	Carrier Name: FedEx	Relinquished By: <i>[Signature]</i>	Sampler Signature: _____
Account Code: 2009 T 03W 302DD2C A3AXSI00	Airbill: 868304289219	(Date / Time)	Received By (Date / Time)
CERCLIS ID: WVD988766168	Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277		
Spill ID:		3	
Site Name/State: White Park/WV		4	
Project Leader: Carol Phillips			
Action: Site Inspection Reassessment			
Sampling Co: Triad Engineering, Inc.			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2157	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	399 (Ice Only) (1)	SS3	S: 8/18/2009 11:28	MC2157	--
C2158	Soil/Sediment/ Carol Phillips	H/G	BNA (7)	3101 (Ice Only) (1)	SS4	S: 8/18/2009 15:40	MC2158	--
C2159	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3103 (Ice Only) (1)	SS5	S: 8/17/2009 12:02	MC2159	--
C2160	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3105 (Ice Only) (1)	SS6	S: 8/17/2009 12:16	MC2160	--
C2161	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3107 (Ice Only) (1)	SS7	S: 8/17/2009 11:35	MC2161	--
C2162	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3109 (Ice Only) (1)	SS8	S: 8/17/2009 10:14	MC2162	--
C2163	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3111 (Ice Only) (1)	SS9	S: 8/17/2009 11:21	MC2163	--
C2164	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3113 (Ice Only) (1)	SS10	S: 8/18/2009 10:05	MC2164	--
C2165	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3115 (Ice Only) (1)	SS11	S: 8/18/2009 10:05	MC2165	--
C2166	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3117 (Ice Only) (1)	SS12	S: 8/19/2009 14:20	MC2166	Field Duplicate 7/22/05
C2167	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3119 (Ice Only) (1)	SS15	S: 8/17/2009 10:15	MC2167	--

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

**TR Number: 3-043013577-081909-0002**

PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

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# U.S. EPA Region III Analytical Request Form

ASQAB USE ONLY	
RAS#	CT4648
DAS#	Analytical TAT
NSF#	7 Days

38855

Date: 7/30/2009		Site Activity: Site Inspection Reassessment	
Site Name: White Park			
City: Morgantown	State: WV	Street Address: Mississippi Street	
Latitude: 39° 36' 41.70"		Longitude: 79° 57' 55.25"	
Program: Superfund		Acct. #: 2009 T 03W 302DD2C 03RXSI00	
Site ID:		CERCLIS #: WVD988766168	
Spill ID:		Operable Unit: 0	
Site Specific QA Plan Submitted: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Title: Sampling and Analysis Plan, White Park, Rev. 0 July 2009 Date Approved: July 30, 2009			
EPA Project Leader: James Hargett	Phone#: 215-814-3305	Cell Phone #:	E-mail: hargett.james@epa.gov
Request Preparer: Lydia Work	Phone#: 304-296-2562	Cell Phone #:	E-mail: lwork@triadeng.com
Site Leader: Pam Hayes, WVDEP	Phone#: 304-926-0499	Cell Phone #:	E-mail: Pamela.D.Hayes@wv.gov
Contractor: Triad Engineering, Inc.			
#Samples 36 + 6 = 42	Matrix: Soil	Parameter: SVOC	Method: SOM01.2
#Samples 36 + 6 = 42	Matrix: Soil	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 17 + 6 = 23	Matrix: Soil	Parameter: VOC, PCB	Method: SOM01.2
#Samples 6	Matrix: Sediment	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Sediment	Parameter: VOC, SVOC, PCB	Method: SOM01.2
#Samples 7 + 6 = 13	Matrix: Water, non-potable	Parameter: Trace VOC, SVOC	Method: SOM01.2
#Samples 7 + 6 = 13	Matrix: Water, non-potable	Parameter: Dissolved As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Surface Water	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Surface Water	Parameter: Trace VOC, SVOC	Method: SOM01.2
Ship Date From: 8/17/2009	Ship Date To: 8/22/2009	Org. Validation Level M2	Inorg. Validation Level IM1
Unvalidated Data Requested: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, TAT Needed: <input type="checkbox"/> 24hrs <input type="checkbox"/> 48hrs <input type="checkbox"/> 72hrs <input type="checkbox"/> 7days <input type="checkbox"/> Other (Specify)			
Validated Data Package Due: <input type="checkbox"/> 42 days <input type="checkbox"/> 30 days <input type="checkbox"/> 21 days <input checked="" type="checkbox"/> 14 days <input type="checkbox"/> Other (Specify) 7/7			
Electronic Data Deliverables Required: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (EDDs will be provided in Region 3 EDD Format)			
Special Instructions:			



DATA SUMMARY FORM: Trace Volatiles

Case #: 38855

SDG : C2170

Site :

WHITE PARK

Lab. :

A4

Sample Number :		C2173									
Sampling Location :		SW4									
Field QC :		Trip Blank									
Matrix :		Water									
Units :		ug/L									
Date Sampled :		8/17/2009									
Time Sampled :		16:15									
pH :		< 2									
Dilution Factor :		1.0									
Trace Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
*Tetrachloroethene	0.50										
2-Hexanone	5.0										
Dibromochloromethane	0.50										
1,2-Dibromoethane	0.50										
*Chlorobenzene	0.50										
*Ethylbenzene	0.50										
o-Xylene	0.50										
m,p-Xylene	0.50										
*Styrene	0.50										
Bromoform	0.50										
Isopropylbenzene	0.50										
1,1,2,2-Tetrachloroethane	0.50										
*1,3-Dichlorobenzene	0.50										
*1,4-Dichlorobenzene	0.50										
1,2-Dichlorobenzene	0.50										
1,2-Dibromo-3-chloropropane	0.50										
1,2,4-Trichlorobenzene	0.50										
1,2,3-Trichlorobenzene	0.50										

CRQL = Contract Required Quantitation Limit

\*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor)

Revised 09/99



Case #: 38855

SDG : C2144

Site :

WHITE PARK

Lab. :

A4

Sample Number :	C2144										
Sampling Location :	SB1										
Matrix :	Dup of C2145										
Units :	Soil										
Date Sampled :	ug/Kg										
Time Sampled :	8/17/2009										
%Moisture :	14:25										
pH :	9										
Dilution Factor :	1.0										
Volatile Compound	CRQL	Result	Flag								
1,1,2-Trichloroethane	5.0										
Tetrachloroethene	5.0										
2-Hexanone	10										
Dibromochloromethane	5.0										
1,2-Dibromoethane	5.0										
Chlorobenzene	5.0										
Ethylbenzene	5.0										
o-Xylene	5.0										
m,p-Xylene	5.0										
Styrene	5.0										
Bromoform	5.0										
Isopropylbenzene	5.0										
1,1,2,2-Tetrachloroethane	5.0										
1,3-Dichlorobenzene	5.0										
1,4-Dichlorobenzene	5.0										
1,2-Dichlorobenzene	5.0										
1,2-Dibromo-3-chloropropane	5.0										
1,2,4-Trichlorobenzene	5.0										
1,2,3-Trichlorobenzene	5.0										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99



Case #: 38855

SDG : C2144

Site :

WHITE PARK

Lab. :

A4

Sample Number :	C2144	C2165	C2166	C2167	C2168						
Sampling Location :	SB1 <i>Dup of C2145</i>	SS11	SS12 <i>Dup of C2155</i>	SS15	SS16						
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/17/2009	8/18/2009	8/19/2009	8/17/2009	8/17/2009						
Time Sampled :	14:25	10:05	14:20	10:15	16:19						
%Moisture :	9	18	11	31	4						
pH :	5.2	5.3	5.2	5.1	5.2						
Dilution Factor :	1.0	1.0	1.0	1.0	1.0						
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	330										
4-Nitrophenol	330										
Dibenzofuran	170										
2,4-Dinitrotoluene	170										
Diethylphthalate	170										
Fluorene	170										
4-Chlorophenyl-phenylether	170										
4-Nitroaniline	330										
4,6-Dinitro-2-methylphenol	330										
N-Nitrosodiphenylamine	170										
1,2,4,5-Tetrachlorobenzene	170										
4-Bromophenyl-phenylether	170										
Hexachlorobenzene	170										
Atrazine	170										
Pentachlorophenol	330										
Phenanthrene	170			85	J			80	J		
Anthracene	170			18	J						
Carbazole	170										
Di-n-butylphthalate	170										
Fluoranthene	170			210	J			170	J		
Pyrene	170			210	J			150	J		
Butylbenzylphthalate	170										
3,3'-Dichlorobenzidine	170										
Benzo(a)anthracene	170			130	J			98	J		
Chrysene	170			120	J			86	J		
Bis(2-ethylhexyl)phthalate	170			60	J						
Di-n-octylphthalate	170										
Benzo(b)fluoranthene	170			84	J			120	J		
Benzo(k)fluoranthene	170			86	J			48	J		
Benzo(a)pyrene	170			81	J			80	J		
Indeno(1,2,3-cd)pyrene	170			62	J			66	J		
Dibenzo(a,h)anthracene	170										
Benzo(g,h,i)perylene	170			68	J			68	J		
2,3,4,6-Tetrachlorophenol	170										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / [(100 - %Moisture) / 100]

Revised 09/99

DATA SUMMARY FORM: Aroclor

Case #: 38855

SDG : C2144

Number of Soil Samples : 1

Site :

WHITE PARK

Number of Water Samples : 0

Lab. :

A4

Sample Number :	C2144										
Sampling Location :	SB1										
Field QC :	Dup. of C2145										
Matrix :	Soil										
Units :	ug/Kg										
Date Sampled :	8/17/2009										
Time Sampled :	14:25										
%Moisture :	9.1										
Dilution Factor :	1.0										
Aroclor Compound	CRQL	Result	Flag								
Aroclor-1016	33										
Aroclor-1221	33										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										
Aroclor-1262	33										
Aroclor-1268	33										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99

## **Appendix D**

### **Laboratory Case Narrative**

Contract #: EPW05036	Case #: 38855	SDG #: C2139
----------------------	---------------	--------------

SDG NARRATIVE

SAMPLE RECEIPT & LOGIN

The following samples were received on the dates listed against them. The samples were logged in for analysis as listed.

<u>Client Sample</u>	<u>Lab Sample Matrix</u>	<u>#Cont.</u>	<u>Received</u>	<u>Analysis</u>	<u>Comments</u>
C2139	0010734-01	Soil	11 08/20/09 09:51	SOM01.2 SVOA  SOM01.2 VOA LOW  SOM01.2 ARO	SDG FIRST SX-MS/MSD(AR O ONLY)
C2140	0010734-02	Soil	6 08/20/09 09:51	SOM01.2 ARO  SOM01.2 SVOA  SOM01.2 VOA LOW	
C2141	0010734-03	Soil	6 08/20/09 09:51	SOM01.2 ARO  SOM01.2 SVOA  SOM01.2 VOA LOW	
C2145	0010734-04	Soil	6 08/20/09 09:51	SOM01.2 ARO  SOM01.2 SVOA  SOM01.2 VOA LOW	
C2146	0010734-05	Soil	6 08/20/09 09:51	SOM01.2 ARO  SOM01.2 SVOA  SOM01.2 VOA LOW	
C2147	0010734-06	Soil	4 08/20/09 09:51	SOM01.2 ARO  SOM01.2 SVOA MED  SOM01.2 VOA MED	
C2148	0010734-07	Soil	6 08/20/09 09:51	SOM01.2 SVOA  SOM01.2 VOA LOW  SOM01.2 ARO	

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 1544 Sawdust Road, Suite505•The Woodlands, TX 77380•Phone (281) 292-5277

Contract #: EPW05036	Case #: 38855	SDG #: C2139
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C2149	0010734-08	Soil		08/20/09 09:51	SOM01.2 ARO SOM01.2 SVOA SOM01.2 VOA LOW	
C2150	0010734-09	Soil	6	08/20/09 09:51	SOM01.2 ARO SOM01.2 SVOA SOM01.2 VOA LOW	
C2151	0010734-10	Soil	6	08/20/09 09:51	SOM01.2 VOA LOW SOM01.2 ARO SOM01.2 SVOA	
C2155	0010734-11	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2156	0010734-12	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2157	0010734-13	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2158	0010734-14	Soil	1	08/20/09 09:51	SOM01.2 SVOA MED	
C2159	0010734-15	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2160	0010734-16	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2161	0010734-17	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2162	0010734-18	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2163	0010734-19	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2164	0010734-20	Soil	1	08/20/09 09:51	SOM01.2 SVOA	SDG FINAL SX

The cooler temperatures are listed against the coolers.

DATE RECEIVED	COOLER NO.	Temp (in °C)	Airbill No.
8/20/09	1	4	868304289219
8/20/09	2	6	868304289219

No other discrepancies or issues were noted during sample receipt and login.

000000002

Contract #: EPW05036	Case #: 38855	SDG #: C2139
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**VOLATILES LOW/MEDIUM**

Samples were analyzed using instrument C-5973 and H-5975.

Instrument C-5973 consisted of an Agilent 5973 GC/MS with a 25-meter long DB-624 (Agilent cat#128-1324) column having a 0.2mm ID and 1.12µm film thickness, OI Purge and Trap Model 4560 with an Archon auto sampler. The trap used was a #10 trap (OI Cat# 228122) having an approximate composition of 40% Tenax, 30% Silica gel and 30% CMS.

Instrument H-5975 consisted of an Agilent 5975 GC/MS with a 25-meter long DB-624 (Agilent cat#128-1324) column having a 0.2mm ID and 1.12µm film thickness, OI Purge and Trap Model 4560 with an Archon auto sampler. The trap used was a #10 trap (OI Cat# 228122) having an approximate composition of 40% Tenax, 30% Silica gel and 30% CMS.

**Issue:** Due to the nature of the samples, the VOA fraction for C2147 had to be analyzed by Med level instead of Low level.  
**Resolution:** Per Region 3, the laboratory's actions were acceptable. The laboratory has noted the issue and proceeded with the analysis of the sample.

MS/MSD was not required.

The following samples were run at dilution, listed against them to get all the compounds within range.

EPA SAMPLE ID	DILUTION
C2147ME	2000

Manual integrations were performed for the following samples for the compounds listed against them.

Compound	EPA Sample ID
Dichlorofluoromethane	VSTD025GD, VSTD050GD, VSTD005GD, VSTD2.5GD, VSTD025GE, VSTD025GF, VSTD025GG, VSTD025GH, VSTD00537,
Bromomethane	VSTD025GD, VSTD100GD, VSTD050GD, VSTD005GD, VSTD2.5GD, VSTD025GE, VSTD025GF, VSTD025GG, VSTD025GH, VSTD025GI, VSTD20037, VSTD00537
Chloroethane	VSTD025GD, VSTD100GD, VSTD050GD, VSTD025GF
Chloroethane-d5	VSTD050GD, VSTD00537
Vinyl Chloride-d3	VSTD005GD, VSTD2.5GD, VSTD025GH, VSTD025GI, VBLKGG, VIBLCAA
Chloromethane	VSTD005GD, VSTD2.5GD, VSTD025GH
Vinyl Chloride	VSTD2.5GD
1, 1, 2-Trichloro-1, 2, 2-trif	VSTD025GF
Benzene-d6	C2147ME

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

**SEMI-VOLATILES**

1) **Extractions**

Contract #: EPW05036	Case #: 38855	SDG #: C2139
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Soil samples were extracted by sonication method. GPC cleanup was performed on soil samples and the associated Blank. No problems were encountered during the extraction.

2) **Analysis**

All samples were analyzed on an Agilent-5973 GC/MS using a 30-meter HP-5MS column (Agilent cat#19091S-433) having a 0.25mm ID and a 0.25µm film thickness. A 1µL injection was used.

MS/MSD was not required.

Sample C2147 and C2158 was analyzed at Medium level. For these two samples extract volume was 1ml instead of 0.5ml.

Manual integrations were performed for the following samples for the compounds listed against them.

Compound	EPA Sample ID
Phenol-d5	SSTD0201E, SSTD0801E, SSTD0401E, SSTD0101E, SSTD0051E, SSTD0201F, C2139, C2140, C2141, C2145, C2146, C2148, C2149, C2150, C2151, C2155, C2156, C2157, C2159, C2160, C2161, C2162, C2163, C2164, C2147, C2158, SSTD0201W, SSTD0201X, SSTD0201Y, SSTD0201Z, SBLK4P, SBLK4Q
Benzo (b) fluoranthene	SSTD0051E, C2139, C2151, C2160, C2161, C2164
Benzo (k) fluoranthene	SSTD0201E, SSTD0401E, SSTD0101E, SSTD0051E, C2139, C2151, C2160, C2161, C2164, SSTD0201W, SSTD0201X
Indeno (1, 2, 3-cd) pyrene	SSTD0201E, SSTD0801E, SSTD0401E, SSTD0101E, SSTD0051E, C2139, C2151, C2160, C2161, C2164, SSTD0201W, SSTD0201X, SSTD0201Y, SSTD0201Z
Caprolactam	SSTD0801E

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

**AROCLORS**

1) **Extractions**

Soil samples were extracted by sonication method followed by sulfuric acid cleanup. No problems were encountered during extraction.

2) **Analysis**

Samples were analyzed using instrument F-6890.

Instrument F-6890 consisted of a dual inlet, dual ECD Agilent 6890 GC/ECD instrument with the following two columns manufactured by Agilent. A 1µL injection was used on each column.

Column 1= DB-XLB: Cat # 1281222, 25m long, 0.2mm ID, 0.33µm film thickness (Instrument ID: F-6890A).

Column 2= DB-35MS: Cat # 1283822, 25m long, 0.2mm ID, 0.33µm film thickness (Instrument ID: F-6890B).

Contract #: EPW05036	Case #: 38855	SDG #: C2139
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MS/MSD was performed on sample C2139.

Manual integrations were performed for the following compounds for the samples listed against them.

COMPOUND	EPA SAMPLE ID (Inst=F-6890A)	EPA SAMPLE ID (Inst=F-6890A)
AR1016{3}		AR16603EE
AR1232{2}		AR12323CH
Decachlorobiphenyl	AIBLKEH, AIBLKEM, AR16603EM	AR12213CH, AR12323CH, AR12423CH, AR12483CH, AR12543CH, AR12623CH, AR16601CH, AR16602CH, AR16603CH, AR16604CH, AR16605CH, AIBLKCH, C2147, C2151, AIBLKEC, AR16603EC, AR16603ED, AIBLKEE, AR16603EE, AIBLKEF, AR16603EG, AIBLKEH, AR16603EH, AIBLKEI, AR16603EI, AIBLKEM, AR16603EM, AIBLKEN
Tetrachloro-m-xylene		AR16603EC
AR1016{2}		AR16603EM

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

The following equations were used for calculation of the sample results from raw instrument output data:

**VOLATILES**

**Low Level Soil/Sediment:**

$$\text{Concentration } (\mu\text{g/Kg}) = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(W_s)(D)}$$

A<sub>x</sub> = Area of the characteristic ion (EICP) for the compound to be measured.

A<sub>is</sub> = Area of the characteristic ion (EICP) for the specific internal standard.

I<sub>s</sub> = Amount of internal standard added in nanograms (ng).

RRF = Mean relative response factor from the heated purge of the initial calibration.

W<sub>s</sub> = Weight of sample added to the purge tube, in grams (g).

$$D = \frac{100 - \% \text{moisture}}{100}$$

DF = Dilution Factor

**Medium Level Soil/Sediment:**

$$\text{Concentration } (\mu\text{g/Kg}) = \frac{(A_x)(I_s)(AVt)1000(DF)}{(A_{is})(RRF)(V_a)(W_s)(D)}$$

A<sub>x</sub> = Area of the characteristic ion (EICP) for the compound to be measured.

Contract #: EPW05036	Case #: 38855	SDG #: C2139
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$A_{is}$  = Area of the characteristic ion (EICP) for the specific internal standard.  
 $I_s$  = Amount of internal standard added in nanograms (ng).

RRF = Mean relative response factor from the heated purge of the initial calibration.  
 $W_s$  = Weight of sample added to the purge tube, in grams (g).

$$D = \frac{100 - \%moisture}{100}$$

DF = Dilution Factor

AVt = Adjusted Total Volume of the Methanol Extract in milliliters (mL)

$$AVt = Vt + \{W_s - [W_s(D)]\}$$

Where Vt is the total volume of methanol extract in mL.  
 The Quantity derived from  $\{W_s - [W_s(D)]\}$  is the soil water volume expressed in mL.

**Semivolatiles:**

**Soil/Sediment:**

$$\text{Concentration } (\mu\text{g/Kg}) \text{ (Dry weight Basis)} = \frac{(A_x)(I_s)(V_t)(D_f)(GPC)}{(A_{is})(RRF)(V_i)(W_s)(D)}$$

$A_x$  = Area of the characteristic ion for the compound to be measured.  
 $A_{is}$  = Area of the characteristic ion for the internal standard.  
 $I_s$  = Amount of internal standard injected in nanograms (ng).  
 $V_t$  = Volume of concentrated extract in microliters ( $\mu\text{L}$ ).  
 $V_i$  = Volume of extracted injected in microliters ( $\mu\text{L}$ ).

$$D = \frac{100 - \%moisture}{100}$$

$W_s$  = Weight of sample extracted in grams (g).  
 Df = Dilution Factor.

$$GPC = \frac{V_{in}}{V_{out}} = \text{GPC Factor. ( If, no GPC is performed, GPC=1).}$$

$V_{in}$  = Volume of extract loaded onto GPC column.  
 $V_{out}$  = Volume of extract collected after the GPC cleanup.

RRF = Mean relative response factor determined from the initial calibration.

**Aroclors**

**Soil/Sediment:**

$$\text{Concentration } \mu\text{g/Kg (Dry weight basis)} = \frac{(A_x)(V_t)(D_f)(GPC)}{(CF)(V_i)(W_s)(D)}$$

$A_x$  = Area of the peak for the compound to be measured.

CF = Mean Calibration factor from the initial calibration standard (area/ng).  
 $V_t$  = Volume of concentrated extract in microliters ( $\mu\text{L}$ ).  
 $V_i$  = Volume of extract injected in microliters ( $\mu\text{L}$ ). (If a single injection is made onto two columns, use  $\frac{1}{2}$  the volume in the syringe as the volume injected onto each column).  
 $W_s$  = Weight of sample extracted (g).

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Contract #: EPW05036	Case #: 38855	SDG #: C2139
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Df = Dilution Factor.

$$D = \% \text{ dry weight or } \frac{100 - \% \text{moisture}}{100}$$

$$\text{GPC} = \frac{V_{in}}{V_{out}} = \text{GPC Factor. (If no GPC is performed, GPC=1).}$$

$V_{in}$  = Volume of extract loaded onto GPC column.

$V_{out}$  = Volume of extract collected after the GPC cleanup.

I certify that this Sample Data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy Sample Data Package and in the electronic data deliverable has been authorized by the laboratory Manager or Manager's designee, as verified by the following signature.

S. Vokati (Lab Director)  
Signature and Title

08/26/09  
Date of Signature

000000007

**jschulze@a4scientific.com**

**From:** "Kramer, Caroline" <ckramer5@fedcsc.com>  
**To:** "Jessica Schulze" <jschulze@a4scientific.com>; "Laxmi Teerupalli" <laxmi@a4scientific.com>; "Rabina Shreshta" <rabina@a4scientific.com>; "Reddy Pakanati" <Pakanati@a4scientific.com>  
**Cc:** "Carroll Harris" <harris.carroll@epa.gov>; "Dan Slizys" <slizys.dan@epa.gov>; "John Kwedar" <kwedar.john@epa.gov>  
**Sent:** Tuesday, August 25, 2009 6:50 AM  
**Subject:** Region 03 | Case 38855 | Lab A4 | SDG C2139 | Issue Laboratory problems | FINAL

Laxmi,

\*\*\*Summary Start\*\*\*

Issue: Due to the nature of the samples, the VOA fraction for C2147 had to be analyzed by Med level instead of Low level.

Resolution: Per Region 3, the laboratory's actions are acceptable. The laboratory will note the issue in the Case/SDG Narrative and proceed with the analysis of the sample.

\*\*\*Summary End\*\*\*

Please let me know if you have any questions or problems.  
Thank you,

Caroline L. Kramer  
Environmental Coordinator - Regions 3 and 9  
CSC

15000 Conference Center Drive, Chantilly VA 20151  
Civil Division | (p) 703-818-4248 | (f) 703-818-4602 |  
[ckramer5@fedcsc.com](mailto:ckramer5@fedcsc.com) | [www.csc.com](http://www.csc.com)

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-----Original Message-----

**From:** [Slizys.Dan@epamail.epa.gov](mailto:Slizys.Dan@epamail.epa.gov) [mailto:Slizys.Dan@epamail.epa.gov]  
**Sent:** Tuesday, August 25, 2009 6:27 AM  
**To:** Kramer, Caroline  
**Cc:** [harris.carroll@epa.gov](mailto:harris.carroll@epa.gov); [kwedar.john@epa.gov](mailto:kwedar.john@epa.gov)  
**Subject:** Re: NEW ISSUE | Case 38855 | Lab A4 | SDG C2139 | Issue Laboratory problems

Caroline,

That is acceptable to the region.

"Kramer,  
Caroline"  
<[ckramer5@fedcsc](mailto:ckramer5@fedcsc)

To

000001667

.com> Carroll  
Harris/ESC/R3/USEPA/US@EPA, Dan  
08/24/2009 12:46 PM Slizys/ESC/R3/USEPA/US@EPA, John  
Kwedat/ESC/R3/USEPA/US@EPA  
cc

Subject  
NEW ISSUE | Case 38855 | Lab A4 |  
SDG C2139 | Issue Laboratory  
problems

Dan/Carroll,  
A4 is reporting the following issue regarding Case 38855. Please advise on how the Region wishes the laboratory to proceed.

Issue: Due to the nature of the samples, the VOA fraction for C2147 had to be analyzed by Med level instead of Low level.

Please let me know if you have any questions.  
Thanks,

Caroline L. Kramer  
Environmental Coordinator - Regions 3 and 9  
CSC

15000 Conference Center Drive, Chantilly VA 20151  
Civil Division | (p) 703-818-4248 | (f) 703-818-4602 |  
[ckramer5@fedcsc.com](mailto:ckramer5@fedcsc.com) | [www.csc.com](http://www.csc.com)

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-----  
From: Mroz, Ryan  
Sent: Monday, August 24, 2009 11:39 AM  
To: Caroline Kramer ([ckramer5@fedcsc.com](mailto:ckramer5@fedcsc.com))  
Subject: FW: 38855\_C2139

Your case?

Ryan Mroz  
Environmental Coordinator - Regions 5 & 8  
CSC

15000 Conference Center Drive Chantilly, VA 20151  
Civil Division | phone: 703.818.4568 | fax: 703.818.4602 |  
[rmroz@fedcsc.com](mailto:rmroz@fedcsc.com) | [www.csc.com](http://www.csc.com)

-----  
-----  
From: [laxmi@a4scientific.com](mailto:laxmi@a4scientific.com) [<mailto:laxmi@a4scientific.com>]  
Sent: Monday, August 24, 2009 12:33 PM  
To: Mroz, Ryan  
Cc: [pakanati@a4scientific.com](mailto:pakanati@a4scientific.com); [jschulze@a4scientific.com](mailto:jschulze@a4scientific.com);  
[shreedhar@a4scientific.com](mailto:shreedhar@a4scientific.com)  
Subject: 38855\_C2139

000001868

Ryan,

Lab received 10 soil samples for 38855\_C2139 on 08/20/2009.

Issue: For the VOA fraction, lab was not able to analyze the sample C2147 at low level because of the nature of the sample. Lab analyzed the sample at medium level.

Please let me know if you have any questions.

Thank you,  
Laxmi Teerupalli  
A4 Scientific Inc.  
[laxmi@a4scientific.com](mailto:laxmi@a4scientific.com)  
1544 Sawdust Rd. Suite 505  
The Woodlands, Texas 77380  
(281) 292-5277

000001863

8/26/2009

**pakanati@a4scientific.com**

**From:** "Caceres, Wendy" <wcaceres@fedcsc.com>  
**To:** "pakanati" <pakanati@a4scientific.com>; <jschulze@a4scientific.com>; "Laxmi" <Laxmi@a4scientific.com>  
**Cc:** <slizys.dan@epa.gov>; <ROCV2.0TEST-DASS@fedcsc.com>  
**Sent:** Friday, August 28, 2009 1:22 PM  
**Attach:** 38855.EPW05036.C2139.IA77281.rtf  
**Subject:** REGION 3 | CASE 38855 | LAB A4 | SDG C2139 | ISSUE IA FAILURE | FINAL <<38855.EPW05036.C2139.IA77281.rtf>> Good afternoon A4,

SDG C2139/CASE 38855 failed Initial Assessment due to reporting sample C2147 with the Analysis Type of 'Reanalysis-01' in the EDD. For instances where the low-level analysis is not performed and the sample was analyzed for medium-level only the sample must be identified as 'Initial', without the -ME suffix. Therefore, the IA failure can be corrected by identifying sample C2147 as 'Initial' and removing the -ME suffix. Also, the reported dilution 'C2147MEDL' does not require the -ME suffix where the -ME suffix should be removed in the EDD and hardcopy.

The corrected EDD and hardcopy forms should arrive to SMO and Region 3 no later than Wednesday, September 3rd.

Please note: the hardcopy corrections should arrive to SMO prior to uploading the corrected EDD.

Please contact me with any questions.

Thank you.

Wendy Caceres  
 SMO/DASS Coordinator  
 CSC

Please send all DASS/CCS inquiries to: [CCSSupport@fedcsc.com](mailto:CCSSupport@fedcsc.com)

15000 Conference Center Drive, Chantilly VA 20151 | Civil Division | Phone: 703.818.4370 |  
 Fax: 703.818.4601 | [wcaceres@fedcsc.com](mailto:wcaceres@fedcsc.com) | [www.csc.com](http://www.csc.com)

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-----Original Message-----

**From:** EXES  
**Sent:** Friday, August 28, 2009 12:06 PM  
**To:** '[pakanati@a4scientific.com](mailto:pakanati@a4scientific.com)'; '[laxmi@a4scientific.com](mailto:laxmi@a4scientific.com)'; '[jschulze@a4scientific.com](mailto:jschulze@a4scientific.com)'; '[shreedhar@a4scientific.com](mailto:shreedhar@a4scientific.com)'; '[rabina@a4scientific.com](mailto:rabina@a4scientific.com)'; '[pakanati@earthlink.net](mailto:pakanati@earthlink.net)'; '[jschulzea4@earthlink.net](mailto:jschulzea4@earthlink.net)'  
**Cc:** EXES\_A4  
**Subject:** Initial Assessment Failure Report for SDG: C2139 Case: 38855

000000070

8/28/2009

Contract: EPW05036

Attached is the Initial Assessment Failure Report for SDG: C2139 Case: 38855 Contract: EPW05036.  
You have three business days to submit a complete compliant replacement submission  
Please do not respond to [EXES@fedcsc.com](mailto:EXES@fedcsc.com)

If you have question please address any inquires to [CCSSUPPORT@fedcsc.com](mailto:CCSSUPPORT@fedcsc.com)

The attached reports have been generated by CSC under the Data Assessment Support Services (DASS) work assignment of the Sample Management Office (SMO), contract No. EP-W-06-046.

000000071

8/28/2009

**A4 Scientific**1544 Sawdust Road, Suite 505  
The Woodlands, TX 77380  
281-292-5277

# Percent Solids Logbook

Effective	Area	Type	Number-Version	RCN
15-June-2009	WET CHEM	FORM	5FORM03-A	799-0615

DATE IN: 08-21-09 TIME IN: 16:48 TEMP IN: 109°CDATE OUT (1): 08-22-09 TIME OUT (1): 10:08 TEMP OUT (1): 109°CDATE OUT (2): - TIME OUT (2): - TEMP OUT (2): -DATE OUT (3): - TIME OUT (3): - TEMP OUT (3): -SOP: 550003-1 Method: ASTMD2216-92/SM2540G/ILM05.4/SOM1.2; other.Oven ID: A Thermometer ID: SP07-1

Pan # A	Lab Sample ID B	Client Sample ID C	Pan Weight (g) D	Pan + Wet Sample (g) E	Pan + Dry Sample #1 (g) F	Pan + Dry Sample #2 (g) F	Pan + Dry Sample #3 (g) F	Percent solids ** I
23	0010734-01	PM3LK'10	1.768	1.768	1.768	NA	NA	-
106	0010734-01	C213C	1.807	7.508	6.065			74.7
84	-02	412	1.814	7.462	6.271			78.9
30	-03	4	1.813	7.747	6.305			75.7
40	-04	4	1.794	7.034	6.550			90.8
75	-05	42	1.770	7.170	6.837			93.8
38	-06	C21 47	1.777	-	-			-
100	-07	48	1.808	7.871	6.764			81.7
6	-08	47	1.804	7.197	6.372			84.7
8	-09	52	1.929	7.161	6.380			85.1
41	-10	5	1.803	7.035	6.417			88.2
1	-11	5	1.837	7.851	7.251			90.0
2	-12	56	1.916	7.233	6.497			86.2
7	-13	57	1.823	7.636	7.011			89.2
49	-14	C21 58	1.810	-	-			-
110	-15	59	1.787	7.090	5.773			75.2
77	-16	60	1.803	7.250	6.073			78.4
110	-17	61	1.800	7.246	5.947			76.1
88	-18	62	1.826	8.603	7.836			88.7
81	-19	63	1.803	7.799	6.786			83.1
22	✓ -20	✓ 64	1.851	7.205	6.646			89.6
31	0010734-01	C2139D	1.780	8.118	6.404			73.0

Notes: Sample 10734-068 -14 Smells gasoline so to reduce fire hazard; % solid is not done.Analyst/Date: J/B 08-24-09Reviewer/Date: Sue 08/25/09

Final Dry Weight (F) is used when monitored final weights are consistent.

\*\*Percent solids(G) = {(F-D)/(E-D)} \* 100

000001841

## **Appendix E**

TIC Form Is

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: H7127.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 25.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000090-12-0	Naphthalene, 1-methyl-	15.81	11	JN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000035

*DJ* 8/21/09

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: C9597.D  
 Level: (TRACE or LOW/MED) MED Date Received: 08/20/2009  
 % Moisture: not dec. 0.0 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

CAS NUMBER	COMPOUND NAME	RT.	EST. CONC.	Q
<del>01 000108-67-8</del>	<del>Benzene, 1,3,5-trimethyl- (0 unknown)</del>	12.52	13000	JN
02 000611-14-3	Benzene, 1-ethyl-2-methyl-	12.73	1300	JN
03 000095-63-6	Benzene, 1,2,4-trimethyl-	12.91	4500	JN
<del>04 000108-67-8</del>	<del>Benzene, 1,3,5-trimethyl- (0 unknown)</del>	13.32	2400	JN
<del>05 000874-41-9</del>	<del>Benzene, 1-ethyl-2,4-dimethyl- (0 unknown)</del>	13.85	1000	JN
<del>06 000874-41-9</del>	<del>Benzene, 1-ethyl-2,4-dimethyl- (0 unknown)</del>	13.91	3400	JN
07 000527-53-7	Benzene, 1,2,3,5-tetramethyl	14.29	2600	JN
08 001595-16-0	Benzene, 1-methyl-4-(1-meth.	14.59	340	JN
09 000095-93-2	Benzene, 1,2,4,5-tetramethyl	14.65	6200	JN
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
E966796 <sup>1</sup>	Total Alkanes	N/A	7500	J

<sup>1</sup>EPA-designated Registry Number.

*D* 8/31/09

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2147DL

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06RE1  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: C9602.D  
 Level: (TRACE or LOW/MED) MED Date Received: 08/20/2009  
 % Moisture: not dec. 0.0 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 2.5 (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 6.39	6.75	19000	JD
02		UNKNOWN 6.39	8.13	13000	JD
03	000526-73-8	Benzene, 1,2,3-trimethyl-	12.90	98000	JDN
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A	2800000	000000033

<sup>1</sup>EPA-designated Registry Number.

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*8/31/09*

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1865.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 25.3 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.34	320	J
02		UNKNOWN 3.44	1.57	19000	J
03		UNKNOWN 3.44	1.60	300	J
04		UNKNOWN 3.44	1.65	530	J
05		UNKNOWN 3.44	1.80	17000	J
06		UNKNOWN 3.44	2.00	260	J
07	000143-07-7	Dodecanoic acid	8.41	290	JN
08	003076-04-8	2-Propenoic acid, tridecyl .	9.42	1400	JN
09		UNKNOWN 10.05	9.47	100	J
10		UNKNOWN 10.05	9.89	88	J
11	000203-64-5	4H-Cyclopenta[def]phenanthre	11.02	160	JN
12		UNKNOWN 10.05	11.25	180	J
13	000084-65-1	9,10-Anthracenedione	11.38	290	JN
14		UNKNOWN 10.05	11.59	99	J
15	000238-84-6	11H-Benzo[a]fluorene	12.85	130	JN
16		UNKNOWN 14.20	13.86	160	J
17		UNKNOWN 14.20	14.34	130	J
18	000205-82-3	Benzo[j]fluoranthene	15.92	160	JN
19		UNKNOWN 16.28	17.05	190	J
20		UNKNOWN 16.28	17.42	130	J
21		UNKNOWN 16.28	17.50	110	J
22		UNKNOWN 16.28	19.46	370	J
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

<sup>2</sup>EPA-designated Registry Number.

DV  
8/31/09

000000533

1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2140

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-02  
 Sample wt/vol: 30.4 (g/mL) g Lab File ID: D1867.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 21.1 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	350	J
02		UNKNOWN 3.44	1.65	370	J
<del>03</del>		<del>UNKNOWN 3.44</del>	<del>1.76</del>	<del>170</del>	<del>J</del> <i>B</i>
04		UNKNOWN 3.44	1.80	240	J
05		UNKNOWN 3.44	2.69	85	J
06	000143-07-7	Dodecanoic acid	8.41	280	JN
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

<sup>2</sup>EPA-designated Registry Number.

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*8/31/09*

000000588

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2141

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-03  
Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1868.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 24.3 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.4 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	270	J
02		UNKNOWN 3.44	1.65	510	J
<del>03</del>		<del>UNKNOWN 3.44</del>	<del>1.76</del>	<del>120</del>	<del>J</del> <b>B</b>
04		UNKNOWN 3.44	1.80	170	J
05		UNKNOWN 3.44	3.64	120	J
06	000143-07-7	Dodecanoic acid	8.42	970	JN
07		UNKNOWN 10.05	11.24	110	J
08		UNKNOWN 16.27	16.73	130	J
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	760	J

<sup>2</sup>EPA-designated Registry Number.

*DJ*  
*8/31/09*

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2145

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-04  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1857.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 9.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	81	J
02		UNKNOWN 3.44	1.65	310	J
03		<del>UNKNOWN 3.44</del>	<del>1.76</del>	<del>95</del>	<del>J</del> <i>B</i>
04	000143-07-7	Dodecanoic acid	8.42	960	JN
05	000112-37-8	Undecanoic acid	11.24	130	JN
06		UNKNOWN 16.27	16.01	95	J
07		UNKNOWN 16.27	19.02	710	J
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	530	J

<sup>2</sup>EPA-designated Registry Number.

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*8/21/09*

0000000636

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2146

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-05  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1858.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 6.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.65	400	J
02		<del>UNKNOWN 3.44</del>	<del>1.76</del>	<del>140</del>	<del>J</del>
03		UNKNOWN 3.44	1.94	110	J
04	000143-07-7	Dodecanoic acid	8.43	1800	JN
05		UNKNOWN 10.05	10.59	110	J
06		UNKNOWN 10.05	11.24	110	J
07		UNKNOWN 16.27	19.01	150	J
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	1300	J

<sup>2</sup>EPA-designated Registry Number.

*DJ*  
*8/31/09*

000000663

1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 1.20 (g/mL) g Lab File ID: D1856.D  
 Level: (TRACE or LOW/MED) MED Extraction: (Type): SONC  
 % Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 2.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.45	2.98	130000	J
<del>02</del>	<del>000526 73 8</del>	<del>Benzene, 1,2,3-trimethyl- (unknown)</del>	3.04	97000	JN
<del>03</del>	<del>000526 73 8</del>	<del>Benzene, 1,2,3-trimethyl- (unknown)</del>	3.28	94000	JN
04	001074-43-7	Benzene, 1-methyl-3-propyl-	3.85	40000	JN
05		UNKNOWN 5.13	4.49	41000	J
06		UNKNOWN 5.13	4.85	67000	J
<del>07</del>	<del>000582-16-1</del>	<del>Naphthalene, 2,7-dimethyl- (unknown)</del>	7.17	46000	JN
<del>08</del>	<del>000582-16-1</del>	<del>Naphthalene, 2,7-dimethyl- (unknown)</del>	7.30	42000	JN
09		UNKNOWN 7.79	8.43	82000	J
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	1500000	J

<sup>2</sup>EPA-designated Registry Number.

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 8/31/09 000001150  
 SOM01.2 (8/2007)

1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2148

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-07  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1861.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 18.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.40	100	J
02		UNKNOWN 3.44	1.65	280	J
03	000143-07-7	Dodecanoic acid (01)	8.44	2500	JN
04	001083-30-3	.beta.-Phenylpropiophenone	10.59	220	JN
05		UNKNOWN 10.05	11.24	140	J
06	000120-46-7	1,3-Propanedione, 1,3-diphe.	12.03	150	JN
07		UNKNOWN 14.20	15.06	95	J
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	930	J

<sup>2</sup>EPA-designated Registry Number.

*DV*  
*8/31/09*

000000694

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2149

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-08  
Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1862.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 15.3 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.63	130	J
02		UNKNOWN 3.44	1.65	420	J
03		UNKNOWN 3.44	1.73	110	J
04		<del>UNKNOWN 3.44</del>	<del>2.23</del>	<del>130</del>	<del>J</del> <b>B</b>
05		UNKNOWN 3.44	2.33	98	J
06		UNKNOWN 3.44	2.40	170	J
07		UNKNOWN 3.44	2.69	88	J
08	000143-07-7	Dodecanoic acid	8.44	3000	JN
09	001083-30-3	.beta.-Phenylpropiofenone	10.59	250	JN
10		UNKNOWN 10.05	12.03	130	J
11		UNKNOWN 14.20	15.06	94	J
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	720	J

<sup>2</sup>EPA-designated Registry Number.

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*8/31/09*

000000725

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2150

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-09  
Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1863.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 14.9 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	110	J
02		UNKNOWN 3.44	1.65	390	J
03		<del>UNKNOWN 3.44</del>	<del>1.76</del>	<del>120</del>	<del>J</del> <i>B</i>
04		<del>UNKNOWN 3.44</del>	<del>2.40</del>	<del>83</del>	<del>J</del> <i>B</i>
05		UNKNOWN 3.44	2.69	85	J
06	000143-07-7	Dodecanoic acid	8.44	1900	JN
07	001083-30-3	.beta.-Phenylpropiophenone	10.59	190	JN
08		UNKNOWN 10.05	11.24	97	J
09		UNKNOWN 14.20	15.06	100	J
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	800	J

<sup>2</sup>EPA-designated Registry Number.

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*8/31/09*

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2151

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-10  
Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1869.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 11.8 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	86	J
02		UNKNOWN 3.44	1.63	100	J
03		UNKNOWN 3.44	1.65	460	J
04		<del>UNKNOWN 3.44</del>	<del>1.69</del>	<del>180</del>	<del>J B</del>
05		<del>UNKNOWN 3.44</del>	<del>1.76</del>	<del>97</del>	<del>J B</del>
06		<del>UNKNOWN 3.44</del>	<del>2.23</del>	<del>80</del>	<del>J B</del>
07		<del>UNKNOWN 3.44</del>	<del>2.40</del>	<del>100</del>	<del>J B</del>
08		UNKNOWN 3.44	2.68	92	J
09	000076-01-7	Ethane, pentachloro-	3.10	77	JN
10	000143-07-7	Dodecanoic acid	8.44	2100	JN
11	001083-30-3	.beta.-Phenylpropiofenone	10.58	180	JN
12		UNKNOWN 10.05	11.24	82	J
13		UNKNOWN 14.20	15.06	89	J
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	540	J

<sup>2</sup>EPA-designated Registry Number.

*DJ*  
*8/31/09*

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2155

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-11  
Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1870.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 10.0 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.65	510	J
<del>02</del>		<del>UNKNOWN 3.44</del>	<del>1.69</del>	<del>180</del>	<del>J B</del>
<del>03</del>		<del>UNKNOWN 3.44</del>	<del>1.76</del>	<del>130</del>	<del>J B</del>
04		UNKNOWN 3.44	2.22	130	J
<del>05</del>		<del>UNKNOWN 3.44</del>	<del>2.40</del>	<del>190</del>	<del>J B</del>
06		UNKNOWN 3.44	2.69	110	J
07	000143-07-7	Dodecanoic acid	8.43	1700	JN
08	001083-30-3	.beta.-Phenylpropiophenone	10.58	180	JN
09	000544-63-8	Tetradecanoic Acid	11.24	130	JN
10		UNKNOWN 14.20	15.06	93	J
11		UNKNOWN 16.27	17.57	77	J
12	000559-74-0	Friedelan-3-one	19.02	2200	JN
13		UNKNOWN 16.27	19.63	290	J
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	910	J

<sup>2</sup>EPA-designated Registry Number.

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*8/31/09*

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1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2156

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-12  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1871.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 13.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000544-25-2	1,3,5-Cycloheptatriene	1.40	110	JN
02		UNKNOWN 3.44	1.63	86	J
03		UNKNOWN 3.44	1.65	450	J
04		<del>UNKNOWN 3.44</del>	<del>1.69</del>	<del>130</del>	<del>J B</del>
05		UNKNOWN 3.44	1.73	110	J
06		<del>UNKNOWN 3.44</del>	<del>2.22</del>	<del>190</del>	<del>J B</del>
07		<del>UNKNOWN 3.44</del>	<del>2.40</del>	<del>280</del>	<del>J B</del>
08		UNKNOWN 3.44	2.69	110	J
09	000143-07-7	Dodecanoic acid	8.43	1700	JN
10	001083-30-3	.beta.-Phenylpropiophenone	10.58	180	JN
11	000057-10-3	n-Hexadecanoic acid	11.24	170	JN
12		UNKNOWN 14.20	15.06	77	J
13		UNKNOWN 16.27	19.02	80	J
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	860	J

<sup>2</sup>EPA-designated Registry Number.

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*8/31/09*

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2157

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-13  
Sample wt/vol: 30.4 (g/mL) g Lab File ID: D1872.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 10.8 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.65	430	J
02	000143-07-7	Dodecanoic acid	8.43	1700	JN
03	001083-30-3	.beta.-Phenylpropiophenone	10.58	140	JN
04	000057-10-3	n-Hexadecanoic acid	11.24	190	JN
05		UNKNOWN 16.27	18.11	120	J
06		UNKNOWN 16.27	18.20	190	J
07	1000194-62-4	4, 4, 6a, 6b, 8a, 11, 11, 14b-Octa.	18.38	740	JN
08		UNKNOWN 16.27	19.02	9300	J
09		UNKNOWN 16.27	19.57	310	J
10		UNKNOWN 16.27	19.63	2300	J
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	470	J

<sup>2</sup>EPA-designated Registry Number.

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*8/21/09*

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1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2158

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036

Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-14

Sample wt/vol: 1.10 (g/mL) g Lab File ID: D1855.D

Level: (TRACE or LOW/MED) MED Extraction: (Type): SONC

% Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009

Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009

Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009

GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 2.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000526-73-8	Benzene, 1,2,3-trimethyl-	3.04	89000	JN
02	000108-67-8	Benzene, 1,3,5-trimethyl-	3.28	73000	JN
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	2300000	J

<sup>2</sup>EPA-designated Registry Number.

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*8/31/09*

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1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2159

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-15  
 Sample wt/vol: 30.5 (g/mL) g Lab File ID: D1873.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 24.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.45	1.65	630	J
02		<del>UNKNOWN 3.45</del>	<del>1.76</del>	<del>140</del>	<del>J</del>
03		<del>UNKNOWN 3.45</del>	<del>2.40</del>	<del>170</del>	<del>J</del>
04		UNKNOWN 3.45	2.69	120	J
05	000143-07-7	Dodecanoic acid	8.43	1300	JN
06		UNKNOWN 10.05	10.47	89	J
07		UNKNOWN 10.05	10.59	140	J
08		UNKNOWN 10.05	11.24	110	J
09		UNKNOWN 16.27	18.38	150	J
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	1800	J

<sup>2</sup>EPA-designated Registry Number.

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*8/31/09*

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SOM01.2 (8/2007)

1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2160

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-16  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1874.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 21.6 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.40	140	J
02		UNKNOWN 3.44	1.65	430	J
03		<del>UNKNOWN 3.44</del>	<del>2.23</del>	<del>180</del>	<del>J B</del>
04		<del>UNKNOWN 3.44</del>	<del>2.40</del>	<del>96</del>	<del>J B</del>
05	000143-07-7	Dodecanoic acid	8.43	1300	JN
06		UNKNOWN 10.05	10.59	120	J
07		UNKNOWN 10.05	11.24	100	J
08		UNKNOWN 10.05	11.77	94	J
09		UNKNOWN 16.27	19.02	110	J
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	1300	J

<sup>2</sup>EPA-designated Registry Number.

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*8/31/09*

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1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2161

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-17  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1866.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 23.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	007785-70-8	1R-.alpha.-Pinene	2.70	850	JN
02	005655-61-8	Bicyclo[2.2.1]heptan-2-ol, .	6.12	420	JN
03	1000109-88-1	(+)-Cycloisosativene	6.86	860	JN
04	000515-13-9	Cyclohexane, 1-ethenyl-1-me.	7.07	1400	JN
05	<del>000473-13-2</del>	<del>Naphthalene, 1,2,3,4,4a,5,6-unknown</del>	7.87	1500	JN
06	<del>000473-13-2</del>	<del>Naphthalene, 1,2,3,4,4a,5,6-unknown</del>	7.95	1000	JN
07		UNKNOWN 7.79	7.97	920	J
08	000483-77-2	Naphthalene, 1,2,3,4-tetra.	8.16	1100	JN
09	000143-07-7	Dodecanoic acid	8.43	480	JN
10	<del>006627-88-9</del>	<del>Phenol, 2,6-dimethoxy-4-(2-unknown)</del>	8.78	750	JN
11		UNKNOWN 10.05	9.09	770	J
12	003856-25-5	Copaene	9.12	750	JN
13		UNKNOWN 10.05	9.21	720	J
14	<del>006627-88-9</del>	<del>Phenol, 2,6-dimethoxy-4-(2-unknown)</del>	9.51	3600	JN
15		UNKNOWN 10.05	9.61	1700	J
16		UNKNOWN 10.05	9.94	810	J
17	000057-10-3	n-Hexadecanoic acid	11.25	760	JN
18		UNKNOWN 10.05	11.68	1100	J
19		UNKNOWN 10.05	11.89	2600	J
20		UNKNOWN 10.05	11.99	3100	J
21	000553-21-9	Germacre-1(10),4,11(13)-tri.	12.05	1200	JN
22		UNKNOWN 10.05	12.12	9900	J
23		UNKNOWN 14.22	13.18	830	J
24		UNKNOWN 14.22	13.26	6400	J
25		UNKNOWN 16.28	15.68	540	J
26		UNKNOWN 16.28	16.76	1100	J
27	1000143-61-3	N-(4-Methoxyphenyl)-2-hydro.	16.92	1200	JN
28		UNKNOWN 16.28	17.01	1200	J
29	000083-47-6	.gamma.-Sitosterol	18.24	660	JN
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	730	J

<sup>2</sup>EPA-designated Registry Number.

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1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2162

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-18  
Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1875.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 11.3 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 6.3 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.65	420	J
02		<del>UNKNOWN 3.44</del>	<del>1.69</del>	<del>130</del>	<del>J B</del>
03		UNKNOWN 3.44	2.14	120	J
04		UNKNOWN 3.44	2.22	120	J
05		<del>UNKNOWN 3.44</del>	<del>2.40</del>	<del>180</del>	<del>J B</del>
06		UNKNOWN 3.44	2.68	110	J
07	000143-07-7	Dodecanoic acid	8.42	710	JN
08		UNKNOWN 16.27	16.73	140	J
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	710	J

<sup>2</sup>EPA-designated Registry Number.

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1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2163

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-19  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1876.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 16.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.4 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.40	200	J
02		UNKNOWN 3.44	1.65	460	J
03		UNKNOWN 3.44	2.22	170	J
04		<del>UNKNOWN 3.44</del>	<del>2.40</del>	<del>200</del>	<del>J</del> B
05		UNKNOWN 3.44	2.69	140	J
06	000143-07-7	Dodecanoic acid	8.42	890	JN
07		UNKNOWN 10.05	10.59	84	J
08		UNKNOWN 10.05	11.24	97	J
09		UNKNOWN 14.20	13.83	120	J
10		UNKNOWN 16.27	17.16	100	J
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	860	J

<sup>2</sup>EPA-designated Registry Number.

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000001083

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2164

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-20  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1877.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 10.4 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000544-25-2	1,3,5-Cycloheptatriene	1.40	160	JN
02		UNKNOWN 3.45	1.44	280	J
03		UNKNOWN 3.45	1.65	430	J
04		<del>UNKNOWN 3.45</del>	<del>1.69</del>	<del>180</del>	<del>J</del> <b>B</b>
05		UNKNOWN 3.45	1.94	76	J
06		<del>UNKNOWN 3.45</del>	<del>2.22</del>	<del>180</del>	<del>J</del> <b>B</b>
07		<del>UNKNOWN 3.45</del>	<del>2.40</del>	<del>210</del>	<del>J</del> <b>B</b>
08		UNKNOWN 3.45	2.69	94	J
09	000143-07-7	Dodecanoic acid	8.42	950	JN
10		UNKNOWN 10.05	10.59	86	J
11	000057-10-3	n-Hexadecanoic acid	11.24	190	JN
12		UNKNOWN 16.27	16.73	100	J
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	900	J

<sup>2</sup>EPA-designated Registry Number.

D  
8/31/09

0000001111

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: H7127.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 25.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume:            (uL) Soil Aliquot Volume:            (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	6.5	U
74-87-3	Chloromethane	6.5	U
75-01-4	Vinyl chloride	6.5	U
74-83-9	Bromomethane	6.5	U
75-00-3	Chloroethane	6.5	U
75-69-4	Trichlorofluoromethane	6.5	U
75-35-4	1,1-Dichloroethene	6.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.5	U
67-64-1	Acetone	7.5	J
75-15-0	Carbon disulfide	6.5	U
79-20-9	Methyl acetate	6.5	U
75-09-2	Methylene chloride	12	
156-60-5	trans-1,2-Dichloroethene	6.5	U
1634-04-4	Methyl tert-butyl ether	6.5	U
75-34-3	1,1-Dichloroethane	6.5	U
156-59-2	cis-1,2-Dichloroethene	6.5	U
78-93-3	2-Butanone	5.2	J
74-97-5	Bromochloromethane	6.5	U
67-66-3	Chloroform	6.5	U
71-55-6	1,1,1-Trichloroethane	6.5	U
110-82-7	Cyclohexane	6.5	U
56-23-5	Carbon tetrachloride	6.5	U
71-43-2	Benzene	6.5	U
107-06-2	1,2-Dichloroethane	6.5	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000033

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: H7127.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 25.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	6.5	U
108-87-2	Methylcyclohexane	6.5	U
78-87-5	1,2-Dichloropropane	6.5	U
75-27-4	Bromodichloromethane	6.5	U
10061-01-5	cis-1,3-Dichloropropene	6.5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.5	U
10061-02-6	trans-1,3-Dichloropropene	6.5	U
79-00-5	1,1,2-Trichloroethane	6.5	U
127-18-4	Tetrachloroethene	6.5	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.5	U
106-93-4	1,2-Dibromoethane	6.5	U
108-90-7	Chlorobenzene	6.5	U
100-41-4	Ethylbenzene	6.5	U
179601-23-1	m,p-Xylene	6.5	U
95-47-6	o-Xylene	6.5	U
100-42-5	Styrene	6.5	U
75-25-2	Bromoform	6.5	U
98-82-8	Isopropylbenzene	6.5	U
79-34-5	1,1,2,2-Tetrachloroethane	6.5	U
541-73-1	1,3-Dichlorobenzene	6.5	U
106-46-7	1,4-Dichlorobenzene	6.5	U
95-50-1	1,2-Dichlorobenzene	6.5	U
96-12-8	1,2-Dibromo-3-chloropropane	6.5	U
120-82-1	1,2,4-Trichlorobenzene	6.5	U
87-61-6	1,2,3-Trichlorobenzene	6.5	U

000000034

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: H7127.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 25.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000090-12-0	Naphthalene, 1-methyl-	15.81	11	JN
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000035

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2140

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:                      SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-02  
 Sample wt/vol: 4.43 (g/mL) g Lab File ID: H7128.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 21.1 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume:                      (uL) Soil Aliquot Volume:                      (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	7.2	U
74-87-3	Chloromethane	7.2	U
75-01-4	Vinyl chloride	7.2	U
74-83-9	Bromomethane	7.2	U
75-00-3	Chloroethane	7.2	U
75-69-4	Trichlorofluoromethane	7.2	U
75-35-4	1,1-Dichloroethene	7.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.2	U
67-64-1	Acetone	14	U
75-15-0	Carbon disulfide	7.2	U
79-20-9	Methyl acetate	7.2	U
75-09-2	Methylene chloride	12	
156-60-5	trans-1,2-Dichloroethene	7.2	U
1634-04-4	Methyl tert-butyl ether	7.2	U
75-34-3	1,1-Dichloroethane	7.2	U
156-59-2	cis-1,2-Dichloroethene	7.2	U
78-93-3	2-Butanone	14	U
74-97-5	Bromochloromethane	7.2	U
67-66-3	Chloroform	7.2	U
71-55-6	1,1,1-Trichloroethane	7.2	U
110-82-7	Cyclohexane	7.2	U
56-23-5	Carbon tetrachloride	7.2	U
71-43-2	Benzene	7.2	U
107-06-2	1,2-Dichloroethane	7.2	U
123-91-1	1,4-Dioxane	140	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000049

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2140

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-02  
 Sample wt/vol: 4.43 (g/mL) g Lab File ID: H7128.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 21.1 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume:            (uL) Soil Aliquot Volume:            (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	7.2	U
108-87-2	Methylcyclohexane	7.2	U
78-87-5	1,2-Dichloropropane	7.2	U
75-27-4	Bromodichloromethane	7.2	U
10061-01-5	cis-1,3-Dichloropropene	7.2	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	7.2	U
10061-02-6	trans-1,3-Dichloropropene	7.2	U
79-00-5	1,1,2-Trichloroethane	7.2	U
127-18-4	Tetrachloroethene	7.2	U
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	7.2	U
106-93-4	1,2-Dibromoethane	7.2	U
108-90-7	Chlorobenzene	7.2	U
100-41-4	Ethylbenzene	7.2	U
179601-23-1	m,p-Xylene	7.2	U
95-47-6	o-Xylene	7.2	U
100-42-5	Styrene	7.2	U
75-25-2	Bromoform	7.2	U
98-82-8	Isopropylbenzene	7.2	U
79-34-5	1,1,2,2-Tetrachloroethane	7.2	U
541-73-1	1,3-Dichlorobenzene	7.2	U
106-46-7	1,4-Dichlorobenzene	7.2	U
95-50-1	1,2-Dichlorobenzene	7.2	U
96-12-8	1,2-Dibromo-3-chloropropane	7.2	U
120-82-1	1,2,4-Trichlorobenzene	7.2	U
87-61-6	1,2,3-Trichlorobenzene	7.2	U

00000050

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2140

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-02  
 Sample wt/vol: 4.43 (g/mL) g Lab File ID: H7128.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 21.1 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000051

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2141

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-03  
 Sample wt/vol: 4.87 (g/mL) g Lab File ID: H7129.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 24.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	6.8	U
74-87-3	Chloromethane	6.8	U
75-01-4	Vinyl chloride	6.8	U
74-83-9	Bromomethane	6.8	U
75-00-3	Chloroethane	6.8	U
75-69-4	Trichlorofluoromethane	6.8	U
75-35-4	1,1-Dichloroethene	6.8	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.8	U
67-64-1	Acetone	6.0	J
75-15-0	Carbon disulfide	6.8	U
79-20-9	Methyl acetate	6.8	U
75-09-2	Methylene chloride	14	
156-60-5	trans-1,2-Dichloroethene	6.8	U
1634-04-4	Methyl tert-butyl ether	6.8	U
75-34-3	1,1-Dichloroethane	6.8	U
156-59-2	cis-1,2-Dichloroethene	6.8	U
78-93-3	2-Butanone	14	U
74-97-5	Bromochloromethane	6.8	U
67-66-3	Chloroform	6.8	U
71-55-6	1,1,1-Trichloroethane	6.8	U
110-82-7	Cyclohexane	6.8	U
56-23-5	Carbon tetrachloride	6.8	U
71-43-2	Benzene	6.8	U
107-06-2	1,2-Dichloroethane	6.8	U
123-91-1	1,4-Dioxane	140	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000062

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2141

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-03  
 Sample wt/vol: 4.87 (g/mL) g Lab File ID: H7129.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 24.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume:          (uL) Soil Aliquot Volume:          (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	6.8	U
108-87-2	Methylcyclohexane	6.8	U
78-87-5	1,2-Dichloropropane	6.8	U
75-27-4	Bromodichloromethane	6.8	U
10061-01-5	cis-1,3-Dichloropropene	6.8	U
108-10-1	4-Methyl-2-pentanone	14	U
108-88-3	Toluene	6.8	U
10061-02-6	trans-1,3-Dichloropropene	6.8	U
79-00-5	1,1,2-Trichloroethane	6.8	U
127-18-4	Tetrachloroethene	6.8	U
591-78-6	2-Hexanone	14	U
124-48-1	Dibromochloromethane	6.8	U
106-93-4	1,2-Dibromoethane	6.8	U
108-90-7	Chlorobenzene	6.8	U
100-41-4	Ethylbenzene	6.8	U
179601-23-1	m,p-Xylene	6.8	U
95-47-6	o-Xylene	6.8	U
100-42-5	Styrene	6.8	U
75-25-2	Bromoform	6.8	U
98-82-8	Isopropylbenzene	6.8	U
79-34-5	1,1,2,2-Tetrachloroethane	6.8	U
541-73-1	1,3-Dichlorobenzene	6.8	U
106-46-7	1,4-Dichlorobenzene	6.8	U
95-50-1	1,2-Dichlorobenzene	6.8	U
96-12-8	1,2-Dibromo-3-chloropropane	6.8	U
120-82-1	1,2,4-Trichlorobenzene	6.8	U
87-61-6	1,2,3-Trichlorobenzene	6.8	U

000000063

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2141

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-03  
 Sample wt/vol: 4.87 (g/mL) g Lab File ID: H7129.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 24.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000064

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2145

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-04  
 Sample wt/vol: 4.26 (g/mL) g Lab File ID: H7130.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 9.2 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	6.5	U
74-87-3	Chloromethane	6.5	U
75-01-4	Vinyl chloride	6.5	U
74-83-9	Bromomethane	6.5	U
75-00-3	Chloroethane	6.5	U
75-69-4	Trichlorofluoromethane	6.5	U
75-35-4	1,1-Dichloroethene	6.5	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.5	U
67-64-1	Acetone	10	J
75-15-0	Carbon disulfide	6.5	U
79-20-9	Methyl acetate	6.5	U
75-09-2	Methylene chloride	14	
156-60-5	trans-1,2-Dichloroethene	6.5	U
1634-04-4	Methyl tert-butyl ether	6.5	U
75-34-3	1,1-Dichloroethane	6.5	U
156-59-2	cis-1,2-Dichloroethene	6.5	U
78-93-3	2-Butanone	13	U
74-97-5	Bromochloromethane	6.5	U
67-66-3	Chloroform	6.5	U
71-55-6	1,1,1-Trichloroethane	6.5	U
110-82-7	Cyclohexane	6.5	U
56-23-5	Carbon tetrachloride	6.5	U
71-43-2	Benzene	6.5	U
107-06-2	1,2-Dichloroethane	6.5	U
123-91-1	1,4-Dioxane	130	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000075

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2145

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-04  
 Sample wt/vol: 4.26 (g/mL) g Lab File ID: H7130.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 9.2 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume:            (uL) Soil Aliquot Volume:            (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	6.5	U
108-87-2	Methylcyclohexane	6.5	U
78-87-5	1,2-Dichloropropane	6.5	U
75-27-4	Bromodichloromethane	6.5	U
10061-01-5	cis-1,3-Dichloropropene	6.5	U
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	6.5	U
10061-02-6	trans-1,3-Dichloropropene	6.5	U
79-00-5	1,1,2-Trichloroethane	6.5	U
127-18-4	Tetrachloroethene	6.5	U
591-78-6	2-Hexanone	13	U
124-48-1	Dibromochloromethane	6.5	U
106-93-4	1,2-Dibromoethane	6.5	U
108-90-7	Chlorobenzene	6.5	U
100-41-4	Ethylbenzene	6.5	U
179601-23-1	m,p-Xylene	6.5	U
95-47-6	o-Xylene	6.5	U
100-42-5	Styrene	6.5	U
75-25-2	Bromoform	6.5	U
98-82-8	Isopropylbenzene	6.5	U
79-34-5	1,1,2,2-Tetrachloroethane	6.5	U
541-73-1	1,3-Dichlorobenzene	6.5	U
106-46-7	1,4-Dichlorobenzene	6.5	U
95-50-1	1,2-Dichlorobenzene	6.5	U
96-12-8	1,2-Dibromo-3-chloropropane	6.5	U
120-82-1	1,2,4-Trichlorobenzene	6.5	U
87-61-6	1,2,3-Trichlorobenzene	6.5	U

000000076

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2145

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-04  
 Sample wt/vol: 4.26 (g/mL) g Lab File ID: H7130.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 9.2 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000077

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2146

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-05  
 Sample wt/vol: 3.50 (g/mL) g Lab File ID: H7131.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 6.2 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume:            (uL) Soil Aliquot Volume:            (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	7.6	U
74-87-3	Chloromethane	7.6	U
75-01-4	Vinyl chloride	7.6	U
74-83-9	Bromomethane	7.6	U
75-00-3	Chloroethane	7.6	U
75-69-4	Trichlorofluoromethane	7.6	U
75-35-4	1,1-Dichloroethene	7.6	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.6	U
67-64-1	Acetone	8.1	J
75-15-0	Carbon disulfide	7.6	U
79-20-9	Methyl acetate	7.6	U
75-09-2	Methylene chloride	15	
156-60-5	trans-1,2-Dichloroethene	7.6	U
1634-04-4	Methyl tert-butyl ether	7.6	U
75-34-3	1,1-Dichloroethane	7.6	U
156-59-2	cis-1,2-Dichloroethene	7.6	U
78-93-3	2-Butanone	15	U
74-97-5	Bromochloromethane	7.6	U
67-66-3	Chloroform	7.6	U
71-55-6	1,1,1-Trichloroethane	7.6	U
110-82-7	Cyclohexane	7.6	U
56-23-5	Carbon tetrachloride	7.6	U
71-43-2	Benzene	7.6	U
107-06-2	1,2-Dichloroethane	7.6	U
123-91-1	1,4-Dioxane	150	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000087

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2146

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-05  
 Sample wt/vol: 3.50 (g/mL) g Lab File ID: H7131.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 6.2 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	7.6	U
108-87-2	Methylcyclohexane	7.6	U
78-87-5	1,2-Dichloropropane	7.6	U
75-27-4	Bromodichloromethane	7.6	U
10061-01-5	cis-1,3-Dichloropropene	7.6	U
108-10-1	4-Methyl-2-pentanone	15	U
108-88-3	Toluene	7.6	U
10061-02-6	trans-1,3-Dichloropropene	7.6	U
79-00-5	1,1,2-Trichloroethane	7.6	U
127-18-4	Tetrachloroethene	7.6	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	7.6	U
106-93-4	1,2-Dibromoethane	7.6	U
108-90-7	Chlorobenzene	7.6	U
100-41-4	Ethylbenzene	7.6	U
179601-23-1	m,p-Xylene	7.6	U
95-47-6	o-Xylene	7.6	U
100-42-5	Styrene	7.6	U
75-25-2	Bromoform	7.6	U
98-82-8	Isopropylbenzene	7.6	U
79-34-5	1,1,2,2-Tetrachloroethane	7.6	U
541-73-1	1,3-Dichlorobenzene	7.6	U
106-46-7	1,4-Dichlorobenzene	7.6	U
95-50-1	1,2-Dichlorobenzene	7.6	U
96-12-8	1,2-Dibromo-3-chloropropane	7.6	U
120-82-1	1,2,4-Trichlorobenzene	7.6	U
87-61-6	1,2,3-Trichlorobenzene	7.6	U

0000000088

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2146

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-05  
 Sample wt/vol: 3.50 (g/mL) g Lab File ID: H7131.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 6.2 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
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19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

0000000089

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: C9597.D  
 Level: (TRACE/LOW/MED) MED Date Received: 08/20/2009  
 % Moisture: not dec. 0.0 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)  
 Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	240	U
74-87-3	Chloromethane	240	U
75-01-4	Vinyl chloride	240	U
74-83-9	Bromomethane	240	U
75-00-3	Chloroethane	240	U
75-69-4	Trichlorofluoromethane	240	U
75-35-4	1,1-Dichloroethene	240	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	240	U
67-64-1	Acetone	480	U
75-15-0	Carbon disulfide	240	U
79-20-9	Methyl acetate	240	U
75-09-2	Methylene chloride	560	
156-60-5	trans-1,2-Dichloroethene	240	U
1634-04-4	Methyl tert-butyl ether	240	U
75-34-3	1,1-Dichloroethane	240	U
156-59-2	cis-1,2-Dichloroethene	240	U
78-93-3	2-Butanone	480	U
74-97-5	Bromochloromethane	240	U
67-66-3	Chloroform	240	U
71-55-6	1,1,1-Trichloroethane	240	U
110-82-7	Cyclohexane	87000	E
56-23-5	Carbon tetrachloride	240	U
71-43-2	Benzene	3100	
107-06-2	1,2-Dichloroethane	300	
123-91-1	1,4-Dioxane	4800	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

0000000007

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: C9597.D  
 Level: (TRACE/LOW/MED) MED Date Received: 08/20/2009  
 % Moisture: not dec. 0.0 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)  
 Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	240	U
108-87-2	Methylcyclohexane	80000	E
78-87-5	1,2-Dichloropropane	240	U
75-27-4	Bromodichloromethane	240	U
10061-01-5	cis-1,3-Dichloropropene	240	U
108-10-1	4-Methyl-2-pentanone	480	U
108-88-3	Toluene	240	U
10061-02-6	trans-1,3-Dichloropropene	240	U
79-00-5	1,1,2-Trichloroethane	240	U
127-18-4	Tetrachloroethene	240	U
591-78-6	2-Hexanone	18000	
124-48-1	Dibromochloromethane	240	U
106-93-4	1,2-Dibromoethane	240	U
108-90-7	Chlorobenzene	240	U
100-41-4	Ethylbenzene	9000	
179601-23-1	m,p-Xylene	50000	E
95-47-6	o-Xylene	16000	E
100-42-5	Styrene	460	
75-25-2	Bromoform	240	U
98-82-8	Isopropylbenzene	3900	
79-34-5	1,1,2,2-Tetrachloroethane	3400	
541-73-1	1,3-Dichlorobenzene	240	U
106-46-7	1,4-Dichlorobenzene	240	U
95-50-1	1,2-Dichlorobenzene	240	U
96-12-8	1,2-Dibromo-3-chloropropane	240	U
120-82-1	1,2,4-Trichlorobenzene	240	U
87-61-6	1,2,3-Trichlorobenzene	240	U

000000008

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: C9597.D  
 Level: (TRACE or LOW/MED) MED Date Received: 08/20/2009  
 % Moisture: not dec. 0.0 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 100 (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT.	EST. CONC.	Q
01	000108-67-8	Benzene, 1,3,5-trimethyl- (0	12.52	13000	JN
02	000611-14-3	Benzene, 1-ethyl-2-methyl-	12.73	1300	JN
03	000095-63-6	Benzene, 1,2,4-trimethyl-	12.91	4500	JN
04	000108-67-8	Benzene, 1,3,5-trimethyl- (0	13.32	2400	JN
05	000874-41-9	Benzene, 1-ethyl-2,4-dimethy	13.85	1000	JN
06	000874-41-9	Benzene, 1-ethyl-2,4-dimethy	13.91	3400	JN
07	000527-53-7	Benzene, 1,2,3,5-tetramethyl	14.29	2600	JN
08	001595-16-0	Benzene, 1-methyl-4-(1-meth.	14.59	340	JN
09	000095-93-2	Benzene, 1,2,4,5-tetramethyl	14.65	6200	JN
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A	7500	J

<sup>1</sup>EPA-designated Registry Number.

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2147DL

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06RE1  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: C9602.D  
 Level: (TRACE/LOW/MED) MED Date Received: 08/20/2009  
 % Moisture: not dec. 0.0 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 2.5 (uL)  
 Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	9700	U
74-87-3	Chloromethane	9700	U
75-01-4	Vinyl chloride	9700	U
74-83-9	Bromomethane	9700	U
75-00-3	Chloroethane	9700	U
75-69-4	Trichlorofluoromethane	9700	U
75-35-4	1,1-Dichloroethene	9700	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	9700	U
67-64-1	Acetone	19000	U
75-15-0	Carbon disulfide	9700	U
79-20-9	Methyl acetate	9700	U
75-09-2	Methylene chloride	19000	D
156-60-5	trans-1,2-Dichloroethene	9700	U
1634-04-4	Methyl tert-butyl ether	9700	U
75-34-3	1,1-Dichloroethane	9700	U
156-59-2	cis-1,2-Dichloroethene	9700	U
78-93-3	2-Butanone	19000	U
74-97-5	Bromochloromethane	9700	U
67-66-3	Chloroform	9700	U
71-55-6	1,1,1-Trichloroethane	9700	U
110-82-7	Cyclohexane	28000	D
56-23-5	Carbon tetrachloride	9700	U
71-43-2	Benzene	2600	JD
107-06-2	1,2-Dichloroethane	9700	U
123-91-1	1,4-Dioxane	190000	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000036

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2147DL

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06RE1  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: C9602.D  
 Level: (TRACE/LOW/MED) MED Date Received: 08/20/2009  
 % Moisture: not dec. 0.0 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 2.5 (uL)  
 Purge Volume: 5.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
79-01-6	Trichloroethene	9700	U
108-87-2	Methylcyclohexane	92000	D
78-87-5	1,2-Dichloropropane	9700	U
75-27-4	Bromodichloromethane	9700	U
10061-01-5	cis-1,3-Dichloropropene	9700	U
108-10-1	4-Methyl-2-pentanone	19000	U
108-88-3	Toluene	9700	U
10061-02-6	trans-1,3-Dichloropropene	9700	U
79-00-5	1,1,2-Trichloroethane	40000	D
127-18-4	Tetrachloroethene	9700	U
591-78-6	2-Hexanone	19000	U
124-48-1	Dibromochloromethane	9700	U
106-93-4	1,2-Dibromoethane	9700	U
108-90-7	Chlorobenzene	9700	U
100-41-4	Ethylbenzene	5600	JD
179601-23-1	m,p-Xylene	50000	D
95-47-6	o-Xylene	11000	D
100-42-5	Styrene	9700	U
75-25-2	Bromoform	9700	U
98-82-8	Isopropylbenzene	2300	JD
79-34-5	1,1,2,2-Tetrachloroethane	9700	U
541-73-1	1,3-Dichlorobenzene	9700	U
106-46-7	1,4-Dichlorobenzene	9700	U
95-50-1	1,2-Dichlorobenzene	9700	U
96-12-8	1,2-Dibromo-3-chloropropane	9700	U
120-82-1	1,2,4-Trichlorobenzene	9700	U
87-61-6	1,2,3-Trichlorobenzene	9700	U

000000037

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2147DL

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06RE1  
 Sample wt/vol: 5.16 (g/mL) g Lab File ID: C9602.D  
 Level: (TRACE or LOW/MED) MED Date Received: 08/20/2009  
 % Moisture: not dec. 0.0 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 5000 (uL) Soil Aliquot Volume: 2.5 (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 5.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 6.39	6.75	19000	JD
02		UNKNOWN 6.39	8.13	13000	JD
03	000526-73-8	Benzene, 1,2,3-trimethyl-	12.90	98000	JDN
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A	2800000	J

<sup>1</sup>EPA-designated Registry Number.

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2148

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-07  
 Sample wt/vol: 4.15 (g/mL) g Lab File ID: H7132.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 18.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	7.4	U
74-87-3	Chloromethane	7.4	U
75-01-4	Vinyl chloride	7.4	U
74-83-9	Bromomethane	7.4	U
75-00-3	Chloroethane	7.4	U
75-69-4	Trichlorofluoromethane	7.4	U
75-35-4	1,1-Dichloroethene	7.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.4	U
67-64-1	Acetone	10	J
75-15-0	Carbon disulfide	7.4	U
79-20-9	Methyl acetate	7.4	U
75-09-2	Methylene chloride	13	
156-60-5	trans-1,2-Dichloroethene	7.4	U
1634-04-4	Methyl tert-butyl ether	7.4	U
75-34-3	1,1-Dichloroethane	7.4	U
156-59-2	cis-1,2-Dichloroethene	7.4	U
78-93-3	2-Butanone	5.1	J
74-97-5	Bromochloromethane	7.4	U
67-66-3	Chloroform	7.4	U
71-55-6	1,1,1-Trichloroethane	7.4	U
110-82-7	Cyclohexane	7.4	U
56-23-5	Carbon tetrachloride	7.4	U
71-43-2	Benzene	7.4	U
107-06-2	1,2-Dichloroethane	7.4	U
123-91-1	1,4-Dioxane	150	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000163

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2148

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-07  
 Sample wt/vol: 4.15 (g/mL) g Lab File ID: H7132.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 18.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
79-01-6	Trichloroethene	7.4	U
108-87-2	Methylcyclohexane	7.4	U
78-87-5	1,2-Dichloropropane	7.4	U
75-27-4	Bromodichloromethane	7.4	U
10061-01-5	cis-1,3-Dichloropropene	7.4	U
108-10-1	4-Methyl-2-pentanone	15	U
108-88-3	Toluene	7.4	U
10061-02-6	trans-1,3-Dichloropropene	7.4	U
79-00-5	1,1,2-Trichloroethane	7.4	U
127-18-4	Tetrachloroethene	7.4	U
591-78-6	2-Hexanone	15	U
124-48-1	Dibromochloromethane	7.4	U
106-93-4	1,2-Dibromoethane	7.4	U
108-90-7	Chlorobenzene	7.4	U
100-41-4	Ethylbenzene	7.4	U
179601-23-1	m,p-Xylene	7.4	U
95-47-6	o-Xylene	7.4	U
100-42-5	Styrene	7.4	U
75-25-2	Bromoform	7.4	U
98-82-8	Isopropylbenzene	7.4	U
79-34-5	1,1,2,2-Tetrachloroethane	7.4	U
541-73-1	1,3-Dichlorobenzene	7.4	U
106-46-7	1,4-Dichlorobenzene	7.4	U
95-50-1	1,2-Dichlorobenzene	7.4	U
96-12-8	1,2-Dibromo-3-chloropropane	7.4	U
120-82-1	1,2,4-Trichlorobenzene	7.4	U
87-61-6	1,2,3-Trichlorobenzene	7.4	U

000000164

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2148

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-07  
 Sample wt/vol: 4.15 (g/mL) g Lab File ID: H7132.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 18.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000165

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2149

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-08  
 Sample wt/vol: 5.50 (g/mL) g Lab File ID: H7133.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 15.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.4	U
74-87-3	Chloromethane	5.4	U
75-01-4	Vinyl chloride	5.4	U
74-83-9	Bromomethane	5.4	U
75-00-3	Chloroethane	5.4	U
75-69-4	Trichlorofluoromethane	5.4	U
75-35-4	1,1-Dichloroethene	5.4	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.4	U
67-64-1	Acetone	11	U
75-15-0	Carbon disulfide	5.4	U
79-20-9	Methyl acetate	5.4	U
75-09-2	Methylene chloride	10	
156-60-5	trans-1,2-Dichloroethene	5.4	U
1634-04-4	Methyl tert-butyl ether	5.4	U
75-34-3	1,1-Dichloroethane	5.4	U
156-59-2	cis-1,2-Dichloroethene	5.4	U
78-93-3	2-Butanone	11	U
74-97-5	Bromochloromethane	5.4	U
67-66-3	Chloroform	5.4	U
71-55-6	1,1,1-Trichloroethane	5.4	U
110-82-7	Cyclohexane	5.4	U
56-23-5	Carbon tetrachloride	5.4	U
71-43-2	Benzene	5.4	U
107-06-2	1,2-Dichloroethane	5.4	U
123-91-1	1,4-Dioxane	110	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000176

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2149

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-08  
 Sample wt/vol: 5.50 (g/mL) g Lab File ID: H7133.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 15.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.4	U
108-87-2	Methylcyclohexane	5.4	U
78-87-5	1,2-Dichloropropane	5.4	U
75-27-4	Bromodichloromethane	5.4	U
10061-01-5	cis-1,3-Dichloropropene	5.4	U
108-10-1	4-Methyl-2-pentanone	11	U
108-88-3	Toluene	5.4	U
10061-02-6	trans-1,3-Dichloropropene	5.4	U
79-00-5	1,1,2-Trichloroethane	5.4	U
127-18-4	Tetrachloroethene	5.4	U
591-78-6	2-Hexanone	11	U
124-48-1	Dibromochloromethane	5.4	U
106-93-4	1,2-Dibromoethane	5.4	U
108-90-7	Chlorobenzene	5.4	U
100-41-4	Ethylbenzene	5.4	U
179601-23-1	m,p-Xylene	5.4	U
95-47-6	o-Xylene	5.4	U
100-42-5	Styrene	5.4	U
75-25-2	Bromoform	5.4	U
98-82-8	Isopropylbenzene	5.4	U
79-34-5	1,1,2,2-Tetrachloroethane	5.4	U
541-73-1	1,3-Dichlorobenzene	5.4	U
106-46-7	1,4-Dichlorobenzene	5.4	U
95-50-1	1,2-Dichlorobenzene	5.4	U
96-12-8	1,2-Dibromo-3-chloropropane	5.4	U
120-82-1	1,2,4-Trichlorobenzene	5.4	U
87-61-6	1,2,3-Trichlorobenzene	5.4	U

000000177

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2149

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-08  
 Sample wt/vol: 5.50 (g/mL) g Lab File ID: H7133.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 15.3 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000178

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2150

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-09  
 Sample wt/vol: 4.90 (g/mL) g Lab File ID: H7134.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 14.9 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	6.0	U
74-87-3	Chloromethane	6.0	U
75-01-4	Vinyl chloride	6.0	U
74-83-9	Bromomethane	6.0	U
75-00-3	Chloroethane	6.0	U
75-69-4	Trichlorofluoromethane	6.0	U
75-35-4	1,1-Dichloroethene	6.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	6.0	U
67-64-1	Acetone	10	J
75-15-0	Carbon disulfide	6.0	U
79-20-9	Methyl acetate	6.0	U
75-09-2	Methylene chloride	15	
156-60-5	trans-1,2-Dichloroethene	6.0	U
1634-04-4	Methyl tert-butyl ether	6.0	U
75-34-3	1,1-Dichloroethane	6.0	U
156-59-2	cis-1,2-Dichloroethene	6.0	U
78-93-3	2-Butanone	12	U
74-97-5	Bromochloromethane	6.0	U
67-66-3	Chloroform	6.0	U
71-55-6	1,1,1-Trichloroethane	6.0	U
110-82-7	Cyclohexane	6.0	U
56-23-5	Carbon tetrachloride	6.0	U
71-43-2	Benzene	6.0	U
107-06-2	1,2-Dichloroethane	6.0	U
123-91-1	1,4-Dioxane	120	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000188

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2150

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-09  
 Sample wt/vol: 4.90 (g/mL) g Lab File ID: H7134.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 14.9 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume:            (uL) Soil Aliquot Volume:            (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	6.0	U
108-87-2	Methylcyclohexane	6.0	U
78-87-5	1,2-Dichloropropane	6.0	U
75-27-4	Bromodichloromethane	6.0	U
10061-01-5	cis-1,3-Dichloropropene	6.0	U
108-10-1	4-Methyl-2-pentanone	12	U
108-88-3	Toluene	6.0	U
10061-02-6	trans-1,3-Dichloropropene	6.0	U
79-00-5	1,1,2-Trichloroethane	6.0	U
127-18-4	Tetrachloroethene	6.0	U
591-78-6	2-Hexanone	12	U
124-48-1	Dibromochloromethane	6.0	U
106-93-4	1,2-Dibromoethane	6.0	U
108-90-7	Chlorobenzene	6.0	U
100-41-4	Ethylbenzene	6.0	U
179601-23-1	m,p-Xylene	6.0	U
95-47-6	o-Xylene	6.0	U
100-42-5	Styrene	6.0	U
75-25-2	Bromoform	6.0	U
98-82-8	Isopropylbenzene	6.0	U
79-34-5	1,1,2,2-Tetrachloroethane	6.0	U
541-73-1	1,3-Dichlorobenzene	6.0	U
106-46-7	1,4-Dichlorobenzene	6.0	U
95-50-1	1,2-Dichlorobenzene	6.0	U
96-12-8	1,2-Dibromo-3-chloropropane	6.0	U
120-82-1	1,2,4-Trichlorobenzene	6.0	U
87-61-6	1,2,3-Trichlorobenzene	6.0	U

000000189

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2150

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-09  
 Sample wt/vol: 4.90 (g/mL) g Lab File ID: H7134.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 14.9 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000190

1A - FORM I VOA-1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2151

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-10  
 Sample wt/vol: 5.60 (g/mL) g Lab File ID: H7135.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 11.8 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume:            (uL) Soil Aliquot Volume:            (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
75-71-8	Dichlorodifluoromethane	5.1	U
74-87-3	Chloromethane	5.1	U
75-01-4	Vinyl chloride	5.1	U
74-83-9	Bromomethane	5.1	U
75-00-3	Chloroethane	5.1	U
75-69-4	Trichlorofluoromethane	5.1	U
75-35-4	1,1-Dichloroethene	5.1	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	5.1	U
67-64-1	Acetone	5.1	J
75-15-0	Carbon disulfide	5.1	U
79-20-9	Methyl acetate	5.1	U
75-09-2	Methylene chloride	9.7	
156-60-5	trans-1,2-Dichloroethene	5.1	U
1634-04-4	Methyl tert-butyl ether	5.1	U
75-34-3	1,1-Dichloroethane	5.1	U
156-59-2	cis-1,2-Dichloroethene	5.1	U
78-93-3	2-Butanone	10	U
74-97-5	Bromochloromethane	5.1	U
67-66-3	Chloroform	5.1	U
71-55-6	1,1,1-Trichloroethane	5.1	U
110-82-7	Cyclohexane	5.1	U
56-23-5	Carbon tetrachloride	5.1	U
71-43-2	Benzene	5.1	U
107-06-2	1,2-Dichloroethane	5.1	U
123-91-1	1,4-Dioxane	100	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

000000200

1B - FORM I VOA-2  
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2151

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-10  
 Sample wt/vol: 5.60 (g/mL) g Lab File ID: H7135.D  
 Level: (TRACE/LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 11.8 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 Purge Volume: 10.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
79-01-6	Trichloroethene	5.1	U
108-87-2	Methylcyclohexane	5.1	U
78-87-5	1,2-Dichloropropane	5.1	U
75-27-4	Bromodichloromethane	5.1	U
10061-01-5	cis-1,3-Dichloropropene	5.1	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.1	U
10061-02-6	trans-1,3-Dichloropropene	5.1	U
79-00-5	1,1,2-Trichloroethane	5.1	U
127-18-4	Tetrachloroethene	5.1	U
591-78-6	2-Hexanone	10	U
124-48-1	Dibromochloromethane	5.1	U
106-93-4	1,2-Dibromoethane	5.1	U
108-90-7	Chlorobenzene	5.1	U
100-41-4	Ethylbenzene	5.1	U
179601-23-1	m,p-Xylene	5.1	U
95-47-6	o-Xylene	5.1	U
100-42-5	Styrene	5.1	U
75-25-2	Bromoform	5.1	U
98-82-8	Isopropylbenzene	5.1	U
79-34-5	1,1,2,2-Tetrachloroethane	5.1	U
541-73-1	1,3-Dichlorobenzene	5.1	U
106-46-7	1,4-Dichlorobenzene	5.1	U
95-50-1	1,2-Dichlorobenzene	5.1	U
96-12-8	1,2-Dibromo-3-chloropropane	5.1	U
120-82-1	1,2,4-Trichlorobenzene	5.1	U
87-61-6	1,2,3-Trichlorobenzene	5.1	U

000000201

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2151

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-10  
 Sample wt/vol: 5.60 (g/mL) g Lab File ID: H7135.D  
 Level: (TRACE or LOW/MED) LOW Date Received: 08/20/2009  
 % Moisture: not dec. 11.8 Date Analyzed: 08/21/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg Purge Volume: 10.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01					
02					
03					
04					
05					
06					
07					
08					
09					
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20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000202

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1865.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 25.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	310	
108-95-2	Phenol	230	U
111-44-4	Bis(2-chloroethyl) ether	230	U
95-57-8	2-Chlorophenol	230	U
95-48-7	2-Methylphenol	230	U
108-60-1	2,2'-Oxybis(1-chloropropane)	230	U
98-86-2	Acetophenone	170	J
106-44-5	4-Methylphenol	230	U
621-64-7	N-Nitroso-di-n-propylamine	230	U
67-72-1	Hexachloroethane	230	U
98-95-3	Nitrobenzene	230	U
78-59-1	Isophorone	230	U
88-75-5	2-Nitrophenol	230	U
105-67-9	2,4-Dimethylphenol	230	U
111-91-1	Bis(2-chloroethoxy)methane	230	U
120-83-2	2,4-Dichlorophenol	230	U
91-20-3	Naphthalene	230	U
106-47-8	4-Chloroaniline	230	U
87-68-3	Hexachlorobutadiene	230	U
105-60-2	Caprolactam	230	U
59-50-7	4-Chloro-3-methylphenol	230	U
91-57-6	2-Methylnaphthalene	230	U
77-47-4	Hexachlorocyclopentadiene	230	U
88-06-2	2,4,6-Trichlorophenol	230	U
95-95-4	2,4,5-Trichlorophenol	230	U
92-52-4	1,1'-Biphenyl	230	U
91-58-7	2-Chloronaphthalene	230	U
88-74-4	2-Nitroaniline	440	U
131-11-3	Dimethylphthalate	230	U
606-20-2	2,6-Dinitrotoluene	230	U
208-96-8	Acenaphthylene	230	U
99-09-2	3-Nitroaniline	440	U
83-32-9	Acenaphthene	230	U

000000531

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1865.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 25.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	440	U
100-02-7	4-Nitrophenol	440	U
132-64-9	Dibenzofuran	230	U
121-14-2	2,4-Dinitrotoluene	230	U
84-66-2	Diethylphthalate	230	U
86-73-7	Fluorene	230	U
7005-72-3	4-Chlorophenyl-phenylether	230	U
100-01-6	4-Nitroaniline	440	U
534-52-1	4,6-Dinitro-2-methylphenol	440	U
86-30-6	N-Nitrosodiphenylamine (1)	230	U
95-94-3	1,2,4,5-Tetrachlorobenzene	230	U
101-55-3	4-Bromophenyl-phenylether	230	U
118-74-1	Hexachlorobenzene	230	U
1912-24-9	Atrazine	230	U
87-86-5	Pentachlorophenol	440	U
85-01-8	Phenanthrene	480	
120-12-7	Anthracene	49	J
86-74-8	Carbazole	69	J
84-74-2	Di-n-butylphthalate	230	U
206-44-0	Fluoranthene	1200	
129-00-0	Pyrene	910	
85-68-7	Butylbenzylphthalate	230	U
91-94-1	3,3'-Dichlorobenzidine	230	U
56-55-3	Benzo (a) anthracene	460	
218-01-9	Chrysene	540	
117-81-7	Bis(2-ethylhexyl)phthalate	140	J
117-84-0	Di-n-octylphthalate	230	U
205-99-2	Benzo (b) fluoranthene	510	
207-08-9	Benzo (k) fluoranthene	530	
50-32-8	Benzo (a) pyrene	500	
193-39-5	Indeno (1,2,3-cd) pyrene	540	
53-70-3	Dibenzo (a,h) anthracene	230	U
191-24-2	Benzo (g,h,i) perylene	380	
58-90-2	2,3,4,6-Tetrachlorophenol	230	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000532

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1865.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 25.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.34	320	J
02		UNKNOWN 3.44	1.57	19000	J
03		UNKNOWN 3.44	1.60	300	J
04		UNKNOWN 3.44	1.65	530	J
05		UNKNOWN 3.44	1.80	17000	J
06		UNKNOWN 3.44	2.00	260	J
07	000143-07-7	Dodecanoic acid	8.41	290	JN
08	003076-04-8	2-Propenoic acid, tridecyl .	9.42	1400	JN
09		UNKNOWN 10.05	9.47	100	J
10		UNKNOWN 10.05	9.89	88	J
11	000203-64-5	4H-Cyclopenta[def]phenanthre	11.02	160	JN
12		UNKNOWN 10.05	11.25	180	J
13	000084-65-1	9,10-Anthracenedione	11.38	290	JN
14		UNKNOWN 10.05	11.59	99	J
15	000238-84-6	11H-Benzo[a]fluorene	12.85	130	JN
16		UNKNOWN 14.20	13.86	160	J
17		UNKNOWN 14.20	14.34	130	J
18	000205-82-3	Benzo[j]fluoranthene	15.92	160	JN
19		UNKNOWN 16.28	17.05	190	J
20		UNKNOWN 16.28	17.42	130	J
21		UNKNOWN 16.28	17.50	110	J
22		UNKNOWN 16.28	19.46	370	J
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

<sup>2</sup>EPA-designated Registry Number.

000000533

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2140

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-02  
 Sample wt/vol: 30.4 (g/mL) g Lab File ID: D1867.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 21.1 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	130	J
108-95-2	Phenol	210	U
111-44-4	Bis(2-chloroethyl)ether	210	U
95-57-8	2-Chlorophenol	210	U
95-48-7	2-Methylphenol	210	U
108-60-1	2,2'-Oxybis(1-chloropropane)	210	U
98-86-2	Acetophenone	210	U
106-44-5	4-Methylphenol	210	U
621-64-7	N-Nitroso-di-n-propylamine	210	U
67-72-1	Hexachloroethane	210	U
98-95-3	Nitrobenzene	210	U
78-59-1	Isophorone	210	U
88-75-5	2-Nitrophenol	210	U
105-67-9	2,4-Dimethylphenol	210	U
111-91-1	Bis(2-chloroethoxy)methane	210	U
120-83-2	2,4-Dichlorophenol	210	U
91-20-3	Naphthalene	210	U
106-47-8	4-Chloroaniline	210	U
87-68-3	Hexachlorobutadiene	210	U
105-60-2	Caprolactam	210	U
59-50-7	4-Chloro-3-methylphenol	210	U
91-57-6	2-Methylnaphthalene	210	U
77-47-4	Hexachlorocyclopentadiene	210	U
88-06-2	2,4,6-Trichlorophenol	210	U
95-95-4	2,4,5-Trichlorophenol	210	U
92-52-4	1,1'-Biphenyl	210	U
91-58-7	2-Chloronaphthalene	210	U
88-74-4	2-Nitroaniline	410	U
131-11-3	Dimethylphthalate	210	U
606-20-2	2,6-Dinitrotoluene	210	U
208-96-8	Acenaphthylene	210	U
99-09-2	3-Nitroaniline	410	U
83-32-9	Acenaphthene	210	U

000000566

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2140

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-02  
 Sample wt/vol: 30.4 (g/mL) g Lab File ID: D1867.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 21.1 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	410	U
100-02-7	4-Nitrophenol	410	U
132-64-9	Dibenzofuran	210	U
121-14-2	2,4-Dinitrotoluene	210	U
84-66-2	Diethylphthalate	210	U
86-73-7	Fluorene	210	U
7005-72-3	4-Chlorophenyl-phenylether	210	U
100-01-6	4-Nitroaniline	410	U
534-52-1	4,6-Dinitro-2-methylphenol	410	U
86-30-6	N-Nitrosodiphenylamine (1)	210	U
95-94-3	1,2,4,5-Tetrachlorobenzene	210	U
101-55-3	4-Bromophenyl-phenylether	210	U
118-74-1	Hexachlorobenzene	210	U
1912-24-9	Atrazine	210	U
87-86-5	Pentachlorophenol	410	U
85-01-8	Phenanthrene	210	U
120-12-7	Anthracene	210	U
86-74-8	Carbazole	210	U
84-74-2	Di-n-butylphthalate	210	U
206-44-0	Fluoranthene	210	U
129-00-0	Pyrene	210	U
85-68-7	Butylbenzylphthalate	210	U
91-94-1	3,3'-Dichlorobenzidine	210	U
56-55-3	Benzo (a) anthracene	210	U
218-01-9	Chrysene	210	U
117-81-7	Bis(2-ethylhexyl)phthalate	210	U
117-84-0	Di-n-octylphthalate	210	U
205-99-2	Benzo (b) fluoranthene	210	U
207-08-9	Benzo (k) fluoranthene	210	U
50-32-8	Benzo (a) pyrene	210	U
193-39-5	Indeno (1,2,3-cd) pyrene	210	U
53-70-3	Dibenzo (a,h) anthracene	210	U
191-24-2	Benzo (g,h,i) perylene	210	U
58-90-2	2,3,4,6-Tetrachlorophenol	210	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000587

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2140

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-02  
Sample wt/vol: 30.4 (g/mL) g Lab File ID: D1867.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 21.1 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	350	J
02		UNKNOWN 3.44	1.65	370	J
03		UNKNOWN 3.44	1.76	170	J
04		UNKNOWN 3.44	1.80	240	J
05		UNKNOWN 3.44	2.69	85	J
06	000143-07-7	Dodecanoic acid	8.41	280	JN
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

<sup>2</sup>EPA-designated Registry Number.

000000588

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2141

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-03  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1868.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 24.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	330	
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2'-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1'-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	440	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	220	U
99-09-2	3-Nitroaniline	440	U
83-32-9	Acenaphthene	220	U

000000606

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2141

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-03  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1868.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 24.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	440	U
100-02-7	4-Nitrophenol	440	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	440	U
534-52-1	4,6-Dinitro-2-methylphenol	440	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	440	U
85-01-8	Phenanthrene	220	U
120-12-7	Anthracene	220	U
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	220	U
206-44-0	Fluoranthene	220	U
129-00-0	Pyrene	220	U
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3'-Dichlorobenzidine	220	U
56-55-3	Benzo (a) anthracene	220	U
218-01-9	Chrysene	220	U
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo (b) fluoranthene	220	U
207-08-9	Benzo (k) fluoranthene	220	U
50-32-8	Benzo (a) pyrene	220	U
193-39-5	Indeno (1,2,3-cd) pyrene	220	U
53-70-3	Dibenzo (a,h) anthracene	220	U
191-24-2	Benzo (g,h,i) perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000607

SOM01.2 (8/2007)

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2141

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-03  
Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1868.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 24.3 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.4 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	270	J
02		UNKNOWN 3.44	1.65	510	J
03		UNKNOWN 3.44	1.76	120	J
04		UNKNOWN 3.44	1.80	170	J
05		UNKNOWN 3.44	3.64	120	J
06	000143-07-7	Dodecanoic acid	8.42	970	JN
07		UNKNOWN 10.05	11.24	110	J
08		UNKNOWN 16.27	16.73	130	J
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	760	J

<sup>2</sup>EPA-designated Registry Number.

000000508

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2145

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-04  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1857.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 9.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	250	
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	360	U
83-32-9	Acenaphthene	190	U

000000634

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2145

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-04  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1857.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 9.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	360	U
100-02-7	4-Nitrophenol	360	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	360	U
534-52-1	4,6-Dinitro-2-methylphenol	360	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	360	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000635

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2145

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-04  
Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1857.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 9.2 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	81	J
02		UNKNOWN 3.44	1.65	310	J
03		UNKNOWN 3.44	1.76	95	J
04	000143-07-7	Dodecanoic acid	8.42	960	JN
05	000112-37-8	Undecanoic acid	11.24	130	JN
06		UNKNOWN 16.27	16.01	95	J
07		UNKNOWN 16.27	19.02	710	J
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	530	J

<sup>2</sup>EPA-designated Registry Number.

000000636

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2146

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-05  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1858.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 6.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	310	
108-95-2	Phenol	180	U
111-44-4	Bis(2-chloroethyl)ether	180	U
95-57-8	2-Chlorophenol	180	U
95-48-7	2-Methylphenol	180	U
108-60-1	2,2'-Oxybis(1-chloropropane)	180	U
98-86-2	Acetophenone	55	J
106-44-5	4-Methylphenol	180	U
621-64-7	N-Nitroso-di-n-propylamine	180	U
67-72-1	Hexachloroethane	180	U
98-95-3	Nitrobenzene	180	U
78-59-1	Isophorone	180	U
88-75-5	2-Nitrophenol	180	U
105-67-9	2,4-Dimethylphenol	180	U
111-91-1	Bis(2-chloroethoxy)methane	180	U
120-83-2	2,4-Dichlorophenol	180	U
91-20-3	Naphthalene	180	U
106-47-8	4-Chloroaniline	180	U
87-68-3	Hexachlorobutadiene	180	U
105-60-2	Caprolactam	180	U
59-50-7	4-Chloro-3-methylphenol	180	U
91-57-6	2-Methylnaphthalene	180	U
77-47-4	Hexachlorocyclopentadiene	180	U
88-06-2	2,4,6-Trichlorophenol	180	U
95-95-4	2,4,5-Trichlorophenol	180	U
92-52-4	1,1'-Biphenyl	180	U
91-58-7	2-Chloronaphthalene	180	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	180	U
606-20-2	2,6-Dinitrotoluene	180	U
208-96-8	Acenaphthylene	180	U
99-09-2	3-Nitroaniline	350	U
83-32-9	Acenaphthene	180	U

000000661

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2146

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-05  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1858.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 6.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
51-28-5	2,4-Dinitrophenol	350	U
100-02-7	4-Nitrophenol	350	U
132-64-9	Dibenzofuran	180	U
121-14-2	2,4-Dinitrotoluene	180	U
84-66-2	Diethylphthalate	180	U
86-73-7	Fluorene	180	U
7005-72-3	4-Chlorophenyl-phenylether	180	U
100-01-6	4-Nitroaniline	350	U
534-52-1	4,6-Dinitro-2-methylphenol	350	U
86-30-6	N-Nitrosodiphenylamine (1)	180	U
95-94-3	1,2,4,5-Tetrachlorobenzene	180	U
101-55-3	4-Bromophenyl-phenylether	180	U
118-74-1	Hexachlorobenzene	180	U
1912-24-9	Atrazine	180	U
87-86-5	Pentachlorophenol	350	U
85-01-8	Phenanthrene	180	U
120-12-7	Anthracene	180	U
86-74-8	Carbazole	180	U
84-74-2	Di-n-butylphthalate	180	U
206-44-0	Fluoranthene	180	U
129-00-0	Pyrene	180	U
85-68-7	Butylbenzylphthalate	180	U
91-94-1	3,3'-Dichlorobenzidine	180	U
56-55-3	Benzo (a) anthracene	180	U
218-01-9	Chrysene	180	U
117-81-7	Bis(2-ethylhexyl)phthalate	180	U
117-84-0	Di-n-octylphthalate	180	U
205-99-2	Benzo (b) fluoranthene	180	U
207-08-9	Benzo (k) fluoranthene	180	U
50-32-8	Benzo (a) pyrene	180	U
193-39-5	Indeno (1,2,3-cd) pyrene	180	U
53-70-3	Dibenzo (a,h) anthracene	180	U
191-24-2	Benzo (g,h,i) perylene	180	U
58-90-2	2,3,4,6-Tetrachlorophenol	180	U

<sup>1</sup> Cannot be separated from Diphenylamine

000000662

SOM01.2 (8/2007)

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2146

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-05  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1858.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 6.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.65	400	J
02		UNKNOWN 3.44	1.76	140	J
03		UNKNOWN 3.44	1.94	110	J
04	000143-07-7	Dodecanoic acid	8.43	1800	JN
05		UNKNOWN 10.05	10.59	110	J
06		UNKNOWN 10.05	11.24	110	J
07		UNKNOWN 16.27	19.01	150	J
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	1300	J

<sup>2</sup>EPA-designated Registry Number.

000000663

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2148

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-07  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1861.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 18.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	290	
108-95-2	Phenol	210	U
111-44-4	Bis(2-chloroethyl)ether	210	U
95-57-8	2-Chlorophenol	210	U
95-48-7	2-Methylphenol	210	U
108-60-1	2,2'-Oxybis(1-chloropropane)	210	U
98-86-2	Acetophenone	84	J
106-44-5	4-Methylphenol	210	U
621-64-7	N-Nitroso-di-n-propylamine	210	U
67-72-1	Hexachloroethane	210	U
98-95-3	Nitrobenzene	210	U
78-59-1	Isophorone	210	U
88-75-5	2-Nitrophenol	210	U
105-67-9	2,4-Dimethylphenol	210	U
111-91-1	Bis(2-chloroethoxy)methane	210	U
120-83-2	2,4-Dichlorophenol	210	U
91-20-3	Naphthalene	210	U
106-47-8	4-Chloroaniline	210	U
87-68-3	Hexachlorobutadiene	210	U
105-60-2	Caprolactam	210	U
59-50-7	4-Chloro-3-methylphenol	210	U
91-57-6	2-Methylnaphthalene	210	U
77-47-4	Hexachlorocyclopentadiene	210	U
88-06-2	2,4,6-Trichlorophenol	210	U
95-95-4	2,4,5-Trichlorophenol	210	U
92-52-4	1,1'-Biphenyl	210	U
91-58-7	2-Chloronaphthalene	210	U
88-74-4	2-Nitroaniline	400	U
131-11-3	Dimethylphthalate	210	U
606-20-2	2,6-Dinitrotoluene	210	U
208-96-8	Acenaphthylene	210	U
99-09-2	3-Nitroaniline	400	U
83-32-9	Acenaphthene	210	U

000000692

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2148

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-07  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1861.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 18.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	400	U
100-02-7	4-Nitrophenol	400	U
132-64-9	Dibenzofuran	210	U
121-14-2	2,4-Dinitrotoluene	210	U
84-66-2	Diethylphthalate	210	U
86-73-7	Fluorene	210	U
7005-72-3	4-Chlorophenyl-phenylether	210	U
100-01-6	4-Nitroaniline	400	U
534-52-1	4,6-Dinitro-2-methylphenol	400	U
86-30-6	N-Nitrosodiphenylamine (1)	210	U
95-94-3	1,2,4,5-Tetrachlorobenzene	210	U
101-55-3	4-Bromophenyl-phenylether	210	U
118-74-1	Hexachlorobenzene	210	U
1912-24-9	Atrazine	210	U
87-86-5	Pentachlorophenol	400	U
85-01-8	Phenanthrene	210	U
120-12-7	Anthracene	210	U
86-74-8	Carbazole	210	U
84-74-2	Di-n-butylphthalate	210	U
206-44-0	Fluoranthene	210	U
129-00-0	Pyrene	210	U
85-68-7	Butylbenzylphthalate	210	U
91-94-1	3,3'-Dichlorobenzidine	210	U
56-55-3	Benzo (a) anthracene	210	U
218-01-9	Chrysene	210	U
117-81-7	Bis(2-ethylhexyl)phthalate	210	U
117-84-0	Di-n-octylphthalate	210	U
205-99-2	Benzo (b) fluoranthene	210	U
207-08-9	Benzo (k) fluoranthene	210	U
50-32-8	Benzo (a) pyrene	210	U
193-39-5	Indeno (1,2,3-cd) pyrene	210	U
53-70-3	Dibenzo (a,h) anthracene	210	U
191-24-2	Benzo (g,h,i) perylene	210	U
58-90-2	2,3,4,6-Tetrachlorophenol	210	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000693

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2148

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-07  
Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1861.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 18.3 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.40	100	J
02		UNKNOWN 3.44	1.65	280	J
03	000143-07-7	Dodecanoic acid (01)	8.44	2500	JN
04	001083-30-3	.beta.-Phenylpropiophenone	10.59	220	JN
05		UNKNOWN 10.05	11.24	140	J
06	000120-46-7	1,3-Propanedione, 1,3-diphe.	12.03	150	JN
07		UNKNOWN 14.20	15.06	95	J
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	930	J

<sup>2</sup>EPA-designated Registry Number.

000000694

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2149

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-08  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1862.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 15.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	260	
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl) ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	77	J
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	390	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	390	U
83-32-9	Acenaphthene	200	U

000000723

SOM01.2 (8/2007)

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2149

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-08  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1862.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 15.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
51-28-5	2,4-Dinitrophenol	390	U
100-02-7	4-Nitrophenol	390	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	390	U
534-52-1	4,6-Dinitro-2-methylphenol	390	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	390	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000724

SOM01.2 (8/2007)

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2149

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-08  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1862.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 15.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.63	130	J
02		UNKNOWN 3.44	1.65	420	J
03		UNKNOWN 3.44	1.73	110	J
04		UNKNOWN 3.44	2.23	130	J
05		UNKNOWN 3.44	2.33	98	J
06		UNKNOWN 3.44	2.40	170	J
07		UNKNOWN 3.44	2.69	88	J
08	000143-07-7	Dodecanoic acid	8.44	3000	JN
09	001083-30-3	.beta.-Phenylpropiophenone	10.59	250	JN
10		UNKNOWN 10.05	12.03	130	J
11		UNKNOWN 14.20	15.06	94	J
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	720	J

<sup>2</sup>EPA-designated Registry Number.

000000725

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2150

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-09  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1863.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 14.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	91	J
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl) ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	390	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	390	U
83-32-9	Acenaphthene	200	U

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2150

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-09  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1863.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 14.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	390	U
100-02-7	4-Nitrophenol	390	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	390	U
534-52-1	4,6-Dinitro-2-methylphenol	390	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	390	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000755  
SOM01.2 (8/2007)

1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2150

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-09  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1863.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 14.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	110	J
02		UNKNOWN 3.44	1.65	390	J
03		UNKNOWN 3.44	1.76	120	J
04		UNKNOWN 3.44	2.40	83	J
05		UNKNOWN 3.44	2.69	85	J
06	000143-07-7	Dodecanoic acid	8.44	1900	JN
07	001083-30-3	.beta.-Phenylpropiophenone	10.59	190	JN
08		UNKNOWN 10.05	11.24	97	J
09		UNKNOWN 14.20	15.06	100	J
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	800	J

<sup>2</sup>EPA-designated Registry Number.

000000756

SOM01.2 (8/2007)

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2151

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-10  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1869.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 11.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	81	J
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl) ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	190	U

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2151

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-10  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1869.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 11.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	370	U
100-02-7	4-Nitrophenol	370	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	370	U
534-52-1	4,6-Dinitro-2-methylphenol	370	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	370	U
85-01-8	Phenanthrene	23	J
120-12-7	Anthracene	5.2	J
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	65	J
129-00-0	Pyrene	54	J
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	33	J
218-01-9	Chrysene	34	J
117-81-7	Bis(2-ethylhexyl)phthalate	28	J
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	28	J
207-08-9	Benzo (k) fluoranthene	23	J
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	18	J
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000785

SOM01.2 (8/2007)

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2151

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-10  
Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1869.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 11.8 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.57	86	J
02		UNKNOWN 3.44	1.63	100	J
03		UNKNOWN 3.44	1.65	460	J
04		UNKNOWN 3.44	1.69	180	J
05		UNKNOWN 3.44	1.76	97	J
06		UNKNOWN 3.44	2.23	80	J
07		UNKNOWN 3.44	2.40	100	J
08		UNKNOWN 3.44	2.68	92	J
09	000076-01-7	Ethane, pentachloro-	3.10	77	JN
10	000143-07-7	Dodecanoic acid	8.44	2100	JN
11	001083-30-3	.beta.-Phenylpropiophenone	10.58	180	JN
12		UNKNOWN 10.05	11.24	82	J
13		UNKNOWN 14.20	15.06	89	J
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	540	J

<sup>2</sup>EPA-designated Registry Number.

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2155

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-11  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1870.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 10.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	190	U

000000829

SOM01.2 (8/2007)

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2155

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-11  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1870.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 10.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	370	U
100-02-7	4-Nitrophenol	370	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	370	U
534-52-1	4,6-Dinitro-2-methylphenol	370	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	370	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000830

SOM01.2 (8/2007)

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2155

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-11  
Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1870.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 10.0 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.65	510	J
02		UNKNOWN 3.44	1.69	180	J
03		UNKNOWN 3.44	1.76	130	J
04		UNKNOWN 3.44	2.22	130	J
05		UNKNOWN 3.44	2.40	190	J
06		UNKNOWN 3.44	2.69	110	J
07	000143-07-7	Dodecanoic acid	8.43	1700	JN
08	001083-30-3	.beta.-Phenylpropiophenone	10.58	180	JN
09	000544-63-8	Tetradecanoic Acid	11.24	130	JN
10		UNKNOWN 14.20	15.06	93	J
11		UNKNOWN 16.27	17.57	77	J
12	000559-74-0	Friedelan-3-one	19.02	2200	JN
13		UNKNOWN 16.27	19.63	290	J
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	910	J

<sup>2</sup>EPA-designated Registry Number.

000000831

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2156

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-12  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1871.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 13.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	200	U

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2156

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-12  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1871.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 13.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	380	U
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	380	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000865

SOM01.2 (8/2007)

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2156

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-12  
Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1871.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 13.8 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000544-25-2	1,3,5-Cycloheptatriene	1.40	110	JN
02		UNKNOWN 3.44	1.63	86	J
03		UNKNOWN 3.44	1.65	450	J
04		UNKNOWN 3.44	1.69	130	J
05		UNKNOWN 3.44	1.73	110	J
06		UNKNOWN 3.44	2.22	190	J
07		UNKNOWN 3.44	2.40	280	J
08		UNKNOWN 3.44	2.69	110	J
09	000143-07-7	Dodecanoic acid	8.43	1700	JN
10	001083-30-3	.beta.-Phenylpropiophenone	10.58	180	JN
11	000057-10-3	n-Hexadecanoic acid	11.24	170	JN
12		UNKNOWN 14.20	15.06	77	J
13		UNKNOWN 16.27	19.02	80	J
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	860	J

<sup>2</sup>EPA-designated Registry Number.

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2157

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-13  
 Sample wt/vol: 30.4 (g/mL) g Lab File ID: D1872.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 10.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	360	U
83-32-9	Acenaphthene	190	U

0000000000

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2157

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-13  
 Sample wt/vol: 30.4 (g/mL) g Lab File ID: D1872.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 10.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	360	U
100-02-7	4-Nitrophenol	360	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	360	U
534-52-1	4,6-Dinitro-2-methylphenol	360	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	360	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000900

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2157

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-13  
Sample wt/vol: 30.4 (g/mL) g Lab File ID: D1872.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 10.8 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.65	430	J
02	000143-07-7	Dodecanoic acid	8.43	1700	JN
03	001083-30-3	.beta.-Phenylpropiophenone	10.58	140	JN
04	000057-10-3	n-Hexadecanoic acid	11.24	190	JN
05		UNKNOWN 16.27	18.11	120	J
06		UNKNOWN 16.27	18.20	190	J
07	1000194-62-4	4,4,6a,6b,8a,11,11,14b-Octa.	18.38	740	JN
08		UNKNOWN 16.27	19.02	9300	J
09		UNKNOWN 16.27	19.57	310	J
10		UNKNOWN 16.27	19.63	2300	J
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	470	J

<sup>2</sup>EPA-designated Registry Number.

000000901

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2159

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-15  
 Sample wt/vol: 30.5 (g/mL) g Lab File ID: D1873.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 24.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2'-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1'-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	430	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	220	U
99-09-2	3-Nitroaniline	430	U
83-32-9	Acenaphthene	220	U

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2159

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-15  
 Sample wt/vol: 30.5 (g/mL) g Lab File ID: D1873.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 24.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	430	U
100-02-7	4-Nitrophenol	430	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	430	U
534-52-1	4,6-Dinitro-2-methylphenol	430	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	430	U
85-01-8	Phenanthrene	220	U
120-12-7	Anthracene	220	U
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	220	U
206-44-0	Fluoranthene	220	U
129-00-0	Pyrene	220	U
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3'-Dichlorobenzidine	220	U
56-55-3	Benzo (a) anthracene	220	U
218-01-9	Chrysene	220	U
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo (b) fluoranthene	220	U
207-08-9	Benzo (k) fluoranthene	220	U
50-32-8	Benzo (a) pyrene	220	U
193-39-5	Indeno (1,2,3-cd) pyrene	220	U
53-70-3	Dibenzo (a,h) anthracene	220	U
191-24-2	Benzo (g,h,i) perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000926  
SOM01.2 (8/2007)

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2159

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-15  
 Sample wt/vol: 30.5 (g/mL) g Lab File ID: D1873.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 24.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.45	1.65	630	J
02		UNKNOWN 3.45	1.76	140	J
03		UNKNOWN 3.45	2.40	170	J
04		UNKNOWN 3.45	2.69	120	J
05	000143-07-7	Dodecanoic acid	8.43	1300	JN
06		UNKNOWN 10.05	10.47	89	J
07		UNKNOWN 10.05	10.59	140	J
08		UNKNOWN 10.05	11.24	110	J
09		UNKNOWN 16.27	18.38	150	J
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	1800	J

<sup>2</sup>EPA-designated Registry Number.

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2160

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-16  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1874.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 21.6 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2'-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1'-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	420	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	220	U
99-09-2	3-Nitroaniline	420	U
83-32-9	Acenaphthene	220	U

000000958

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2160

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-16  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1874.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 21.6 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	420	U
100-02-7	4-Nitrophenol	420	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	420	U
534-52-1	4,6-Dinitro-2-methylphenol	420	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	420	U
85-01-8	Phenanthrene	70	J
120-12-7	Anthracene	10	J
86-74-8	Carbazole	220	U
84-74-2	Di-n-butylphthalate	220	U
206-44-0	Fluoranthene	110	J
129-00-0	Pyrene	85	J
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3'-Dichlorobenzidine	220	U
56-55-3	Benzo (a) anthracene	56	J
218-01-9	Chrysene	56	J
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo (b) fluoranthene	32	J
207-08-9	Benzo (k) fluoranthene	51	J
50-32-8	Benzo (a) pyrene	220	U
193-39-5	Indeno (1,2,3-cd) pyrene	34	J
53-70-3	Dibenzo (a,h) anthracene	220	U
191-24-2	Benzo (g,h,i) perylene	220	U
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000959

1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2160

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-16  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1874.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 21.6 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.40	140	J
02		UNKNOWN 3.44	1.65	430	J
03		UNKNOWN 3.44	2.23	180	J
04		UNKNOWN 3.44	2.40	96	J
05	000143-07-7	Dodecanoic acid	8.43	1300	JN
06		UNKNOWN 10.05	10.59	120	J
07		UNKNOWN 10.05	11.24	100	J
08		UNKNOWN 10.05	11.77	94	J
09		UNKNOWN 16.27	19.02	110	J
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	1300	J

<sup>2</sup>EPA-designated Registry Number.

000000960

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2161

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-17  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1866.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 23.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	220	U
108-95-2	Phenol	220	U
111-44-4	Bis(2-chloroethyl)ether	220	U
95-57-8	2-Chlorophenol	220	U
95-48-7	2-Methylphenol	220	U
108-60-1	2,2'-Oxybis(1-chloropropane)	220	U
98-86-2	Acetophenone	220	U
106-44-5	4-Methylphenol	220	U
621-64-7	N-Nitroso-di-n-propylamine	220	U
67-72-1	Hexachloroethane	220	U
98-95-3	Nitrobenzene	220	U
78-59-1	Isophorone	220	U
88-75-5	2-Nitrophenol	220	U
105-67-9	2,4-Dimethylphenol	220	U
111-91-1	Bis(2-chloroethoxy)methane	220	U
120-83-2	2,4-Dichlorophenol	220	U
91-20-3	Naphthalene	220	U
106-47-8	4-Chloroaniline	220	U
87-68-3	Hexachlorobutadiene	220	U
105-60-2	Caprolactam	220	U
59-50-7	4-Chloro-3-methylphenol	220	U
91-57-6	2-Methylnaphthalene	220	U
77-47-4	Hexachlorocyclopentadiene	220	U
88-06-2	2,4,6-Trichlorophenol	220	U
95-95-4	2,4,5-Trichlorophenol	220	U
92-52-4	1,1'-Biphenyl	220	U
91-58-7	2-Chloronaphthalene	220	U
88-74-4	2-Nitroaniline	430	U
131-11-3	Dimethylphthalate	220	U
606-20-2	2,6-Dinitrotoluene	220	U
208-96-8	Acenaphthylene	220	U
99-09-2	3-Nitroaniline	430	U
83-32-9	Acenaphthene	220	U

000000998

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2161

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-17  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1866.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 23.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	430	U
100-02-7	4-Nitrophenol	430	U
132-64-9	Dibenzofuran	220	U
121-14-2	2,4-Dinitrotoluene	220	U
84-66-2	Diethylphthalate	220	U
86-73-7	Fluorene	220	U
7005-72-3	4-Chlorophenyl-phenylether	220	U
100-01-6	4-Nitroaniline	430	U
534-52-1	4,6-Dinitro-2-methylphenol	430	U
86-30-6	N-Nitrosodiphenylamine (1)	220	U
95-94-3	1,2,4,5-Tetrachlorobenzene	220	U
101-55-3	4-Bromophenyl-phenylether	220	U
118-74-1	Hexachlorobenzene	220	U
1912-24-9	Atrazine	220	U
87-86-5	Pentachlorophenol	430	U
85-01-8	Phenanthrene	260	
120-12-7	Anthracene	43	J
86-74-8	Carbazole	39	J
84-74-2	Di-n-butylphthalate	220	U
206-44-0	Fluoranthene	530	
129-00-0	Pyrene	370	
85-68-7	Butylbenzylphthalate	220	U
91-94-1	3,3'-Dichlorobenzidine	220	U
56-55-3	Benzo (a) anthracene	260	
218-01-9	Chrysene	240	
117-81-7	Bis(2-ethylhexyl)phthalate	220	U
117-84-0	Di-n-octylphthalate	220	U
205-99-2	Benzo (b) fluoranthene	170	J
207-08-9	Benzo (k) fluoranthene	240	
50-32-8	Benzo (a) pyrene	180	J
193-39-5	Indeno (1,2,3-cd) pyrene	210	J
53-70-3	Dibenzo (a,h) anthracene	220	U
191-24-2	Benzo (g,h,i) perylene	130	J
58-90-2	2,3,4,6-Tetrachlorophenol	220	U

<sup>1</sup>Cannot be separated from Diphenylamine

000000999

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2161

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-17  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1866.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 23.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	007785-70-8	1R-.alpha.-Pinene	2.70	850	JN
02	005655-61-8	Bicyclo[2.2.1]heptan-2-ol, .	6.12	420	JN
03	1000109-88-1	(+)-Cycloisosativene	6.86	860	JN
04	000515-13-9	Cyclohexane, 1-ethenyl-1-me.	7.07	1400	JN
05	000473-13-2	Naphthalene, 1,2,3,4,4a,5,6.	7.87	1500	JN
06	000473-13-2	Naphthalene, 1,2,3,4,4a,5,6.	7.95	1000	JN
07		UNKNOWN 7.79	7.97	920	J
08	000483-77-2	Naphthalene, 1,2,3,4-tetra.	8.16	1100	JN
09	000143-07-7	Dodecanoic acid	8.43	480	JN
10	006627-88-9	Phenol, 2,6-dimethoxy-4-(2-.	8.78	750	JN
11		UNKNOWN 10.05	9.09	770	J
12	003856-25-5	Copaene	9.12	750	JN
13		UNKNOWN 10.05	9.21	720	J
14	006627-88-9	Phenol, 2,6-dimethoxy-4-(2-.	9.51	3600	JN
15		UNKNOWN 10.05	9.61	1700	J
16		UNKNOWN 10.05	9.94	810	J
17	000057-10-3	n-Hexadecanoic acid	11.25	760	JN
18		UNKNOWN 10.05	11.68	1100	J
19		UNKNOWN 10.05	11.89	2600	J
20		UNKNOWN 10.05	11.99	3100	J
21	000553-21-9	Germacra-1(10),4,11(13)-tri.	12.05	1200	JN
22		UNKNOWN 10.05	12.12	9900	J
23		UNKNOWN 14.22	13.18	830	J
24		UNKNOWN 14.22	13.26	6400	J
25		UNKNOWN 16.28	15.68	540	J
26		UNKNOWN 16.28	16.76	1100	J
27	1000143-61-3	N-(4-Methoxyphenyl)-2-hydro.	16.92	1200	JN
28		UNKNOWN 16.28	17.01	1200	J
29	000083-47-6	.gamma.-Sitosterol	18.24	660	JN
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	730	J

<sup>2</sup>EPA-designated Registry Number.

000001000

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2162

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-18  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1875.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 11.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 6.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	190	U

000001053

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2162

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-18  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1875.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 11.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 6.3 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	370	U
100-02-7	4-Nitrophenol	370	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	370	U
534-52-1	4,6-Dinitro-2-methylphenol	370	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	370	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

<sup>1</sup>Cannot be separated from Diphenylamine

000001054

SOM01.2 (8/2007)

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2162

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-18  
Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1875.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 11.3 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 6.3 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.65	420	J
02		UNKNOWN 3.44	1.69	130	J
03		UNKNOWN 3.44	2.14	120	J
04		UNKNOWN 3.44	2.22	120	J
05		UNKNOWN 3.44	2.40	180	J
06		UNKNOWN 3.44	2.68	110	J
07	000143-07-7	Dodecanoic acid	8.42	710	JN
08		UNKNOWN 16.27	16.73	140	J
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	710	J

<sup>2</sup>EPA-designated Registry Number.

000001055

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2163

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-19  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1876.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 16.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	400	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	400	U
83-32-9	Acenaphthene	200	U

000001061

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2163

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-19  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1876.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 16.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.4 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	400	U
100-02-7	4-Nitrophenol	400	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	400	U
534-52-1	4,6-Dinitro-2-methylphenol	400	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	400	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

<sup>1</sup>Cannot be separated from Diphenylamine

000001082

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2163

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-19  
Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1876.D  
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
% Moisture: 16.9 Decanted: (Y/N) N Date Received: 08/20/2009  
Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
GPC Cleanup: (Y/N) Y pH: 5.4 Dilution Factor: 1.0  
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.44	1.40	200	J
02		UNKNOWN 3.44	1.65	460	J
03		UNKNOWN 3.44	2.22	170	J
04		UNKNOWN 3.44	2.40	300	J
05		UNKNOWN 3.44	2.69	140	J
06	000143-07-7	Dodecanoic acid	8.42	890	JN
07		UNKNOWN 10.05	10.59	84	J
08		UNKNOWN 10.05	11.24	97	J
09		UNKNOWN 14.20	13.83	120	J
10		UNKNOWN 16.27	17.16	100	J
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	860	J

<sup>2</sup>EPA-designated Registry Number.

000001083

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2164

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-20  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1877.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 10.4 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	360	U
83-32-9	Acenaphthene	190	U

000001109

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2164

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-20  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1877.D  
 Level: (LOW/MED) LOW Extraction: (Type) SONC  
 % Moisture: 10.4 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	360	U
100-02-7	4-Nitrophenol	360	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	360	U
534-52-1	4,6-Dinitro-2-methylphenol	360	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	360	U
85-01-8	Phenanthrene	31	J
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	88	J
129-00-0	Pyrene	64	J
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	51	J
218-01-9	Chrysene	49	J
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	26	J
207-08-9	Benzo (k) fluoranthene	41	J
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	25	J
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

\* Cannot be separated from Diphenylamine

000001110

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2164

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-20  
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: D1877.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 10.4 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000544-25-2	1,3,5-Cycloheptatriene	1.40	160	JN
02		UNKNOWN 3.45	1.44	280	J
03		UNKNOWN 3.45	1.65	430	J
04		UNKNOWN 3.45	1.69	180	J
05		UNKNOWN 3.45	1.94	76	J
06		UNKNOWN 3.45	2.22	180	J
07		UNKNOWN 3.45	2.40	210	J
08		UNKNOWN 3.45	2.69	94	J
09	000143-07-7	Dodecanoic acid	8.42	950	JN
10		UNKNOWN 10.05	10.59	86	J
11	000057-10-3	n-Hexadecanoic acid	11.24	190	JN
12		UNKNOWN 16.27	16.73	100	J
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	900	J

<sup>2</sup>EPA-designated Registry Number.

000001111

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:          SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 1.20 (g/mL) g Lab File ID: D1856.D  
 Level: (LOW/MED) MED Extraction: (Type) SONC  
 % Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	8300	U
108-95-2	Phenol	8300	U
111-44-4	Bis(2-chloroethyl) ether	8300	U
95-57-8	2-Chlorophenol	8300	U
95-48-7	2-Methylphenol	8300	U
108-60-1	2,2'-Oxybis(1-chloropropane)	8300	U
98-86-2	Acetophenone	8300	U
106-44-5	4-Methylphenol	8300	U
621-64-7	N-Nitroso-di-n-propylamine	8300	U
67-72-1	Hexachloroethane	8300	U
98-95-3	Nitrobenzene	8300	U
78-59-1	Isophorone	8300	U
88-75-5	2-Nitrophenol	8300	U
105-67-9	2,4-Dimethylphenol	8300	U
111-91-1	Bis(2-chloroethoxy)methane	8300	U
120-83-2	2,4-Dichlorophenol	8300	U
91-20-3	Naphthalene	4900	JB
106-47-8	4-Chloroaniline	8300	U
87-68-3	Hexachlorobutadiene	8300	U
105-60-2	Caprolactam	8300	U
59-50-7	4-Chloro-3-methylphenol	8300	U
91-57-6	2-Methylnaphthalene	13000	B
77-47-4	Hexachlorocyclopentadiene	8300	U
88-06-2	2,4,6-Trichlorophenol	8300	U
95-95-4	2,4,5-Trichlorophenol	8300	U
92-52-4	1,1'-Biphenyl	1700	JB
91-58-7	2-Chloronaphthalene	8300	U
88-74-4	2-Nitroaniline	17000	U
131-11-3	Dimethylphthalate	8300	U
606-20-2	2,6-Dinitrotoluene	8300	U
208-96-8	Acenaphthylene	8300	U
99-09-2	3-Nitroaniline	17000	U
83-32-9	Acenaphthene	8300	U

000001148

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 1.20 (g/mL) g Lab File ID: D1856.D  
 Level: (LOW/MED) MED Extraction: (Type) SONC  
 % Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	17000	U
100-02-7	4-Nitrophenol	17000	U
132-64-9	Dibenzofuran	8300	U
121-14-2	2,4-Dinitrotoluene	8300	U
84-66-2	Diethylphthalate	8300	U
86-73-7	Fluorene	8300	U
7005-72-3	4-Chlorophenyl-phenylether	8300	U
100-01-6	4-Nitroaniline	17000	U
534-52-1	4,6-Dinitro-2-methylphenol	17000	U
86-30-6	N-Nitrosodiphenylamine (1)	8300	U
95-94-3	1,2,4,5-Tetrachlorobenzene	8300	U
101-55-3	4-Bromophenyl-phenylether	8300	U
118-74-1	Hexachlorobenzene	8300	U
1912-24-9	Atrazine	8300	U
87-86-5	Pentachlorophenol	17000	U
85-01-8	Phenanthrene	2300	JB
120-12-7	Anthracene	8300	U
86-74-8	Carbazole	8300	U
84-74-2	Di-n-butylphthalate	8300	U
206-44-0	Fluoranthene	8300	U
129-00-0	Pyrene	8300	U
85-68-7	Butylbenzylphthalate	8300	U
91-94-1	3,3'-Dichlorobenzidine	8300	U
56-55-3	Benzo (a) anthracene	8300	U
218-01-9	Chrysene	8300	U
117-81-7	Bis(2-ethylhexyl)phthalate	8300	U
117-84-0	Di-n-octylphthalate	8300	U
205-99-2	Benzo (b) fluoranthene	8300	U
207-08-9	Benzo (k) fluoranthene	8300	U
50-32-8	Benzo (a) pyrene	8300	U
193-39-5	Indeno (1,2,3-cd) pyrene	8300	U
53-70-3	Dibenzo (a,h) anthracene	8300	U
191-24-2	Benzo (g,h,i) perylene	8300	U
58-90-2	2,3,4,6-Tetrachlorophenol	8300	U

<sup>1</sup>Cannot be separated from Diphenylamine

000001149

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 1.20 (g/mL) g Lab File ID: D1856.D  
 Level: (TRACE or LOW/MED) MED Extraction: (Type): SONC  
 % Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 2.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.45	2.98	130000	J
02	000526-73-8	Benzene, 1,2,3-trimethyl- (0	3.04	97000	JN
03	000526-73-8	Benzene, 1,2,3-trimethyl- (0	3.28	94000	JN
04	001074-43-7	Benzene, 1-methyl-3-propyl-	3.85	40000	JN
05		UNKNOWN 5.13	4.49	41000	J
06		UNKNOWN 5.13	4.85	67000	J
07	000582-16-1	Naphthalene, 2,7-dimethyl- (	7.17	46000	JN
08	000582-16-1	Naphthalene, 2,7-dimethyl- (	7.30	42000	JN
09		UNKNOWN 7.79	8.43	82000	J
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	1500000	J

<sup>2</sup>EPA-designated Registry Number.

000001150

1D - FORM I SV-1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2158

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:            SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-14  
 Sample wt/vol: 1.10 (g/mL) g Lab File ID: D1855.D  
 Level: (LOW/MED) MED Extraction: (Type) SONC  
 % Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	9100	U
108-95-2	Phenol	9100	U
111-44-4	Bis(2-chloroethyl)ether	9100	U
95-57-8	2-Chlorophenol	9100	U
95-48-7	2-Methylphenol	9100	U
108-60-1	2,2'-Oxybis(1-chloropropane)	9100	U
98-86-2	Acetophenone	9100	U
106-44-5	4-Methylphenol	9100	U
621-64-7	N-Nitroso-di-n-propylamine	9100	U
67-72-1	Hexachloroethane	9100	U
98-95-3	Nitrobenzene	9100	U
78-59-1	Isophorone	9100	U
88-75-5	2-Nitrophenol	9100	U
105-67-9	2,4-Dimethylphenol	9100	U
111-91-1	Bis(2-chloroethoxy)methane	9100	U
120-83-2	2,4-Dichlorophenol	9100	U
91-20-3	Naphthalene	4700	JB
106-47-8	4-Chloroaniline	9100	U
87-68-3	Hexachlorobutadiene	9100	U
105-60-2	Caprolactam	9100	U
59-50-7	4-Chloro-3-methylphenol	9100	U
91-57-6	2-Methylnaphthalene	9600	B
77-47-4	Hexachlorocyclopentadiene	9100	U
88-06-2	2,4,6-Trichlorophenol	9100	U
95-95-4	2,4,5-Trichlorophenol	9100	U
92-52-4	1,1'-Biphenyl	2300	JB
91-58-7	2-Chloronaphthalene	9100	U
88-74-4	2-Nitroaniline	18000	U
131-11-3	Dimethylphthalate	9100	U
606-20-2	2,6-Dinitrotoluene	9100	U
208-96-8	Acenaphthylene	9100	U
99-09-2	3-Nitroaniline	18000	U
83-32-9	Acenaphthene	9100	U

000001192

1E - FORM I SV-2  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2158

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-14  
 Sample wt/vol: 1.10 (g/mL) g Lab File ID: D1855.D  
 Level: (LOW/MED) MED Extraction: (Type) SONC  
 % Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 2.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	18000	U
100-02-7	4-Nitrophenol	18000	U
132-64-9	Dibenzofuran	9100	U
121-14-2	2,4-Dinitrotoluene	9100	U
84-66-2	Diethylphthalate	9100	U
86-73-7	Fluorene	9100	U
7005-72-3	4-Chlorophenyl-phenylether	9100	U
100-01-6	4-Nitroaniline	18000	U
534-52-1	4,6-Dinitro-2-methylphenol	18000	U
86-30-6	N-Nitrosodiphenylamine (1)	9100	U
95-94-3	1,2,4,5-Tetrachlorobenzene	9100	U
101-55-3	4-Bromophenyl-phenylether	9100	U
118-74-1	Hexachlorobenzene	9100	U
1912-24-9	Atrazine	9100	U
87-86-5	Pentachlorophenol	18000	U
85-01-8	Phenanthrene	1800	JB
120-12-7	Anthracene	9100	U
86-74-8	Carbazole	9100	U
84-74-2	Di-n-butylphthalate	9100	U
206-44-0	Fluoranthene	9100	U
129-00-0	Pyrene	9100	U
85-68-7	Butylbenzylphthalate	9100	U
91-94-1	3,3'-Dichlorobenzidine	9100	U
56-55-3	Benzo (a) anthracene	9100	U
218-01-9	Chrysene	9100	U
117-81-7	Bis(2-ethylhexyl)phthalate	9100	U
117-84-0	Di-n-octylphthalate	9100	U
205-99-2	Benzo (b) fluoranthene	9100	U
207-08-9	Benzo (k) fluoranthene	9100	U
50-32-8	Benzo (a) pyrene	9100	U
193-39-5	Indeno (1,2,3-cd) pyrene	9100	U
53-70-3	Dibenzo (a,h) anthracene	9100	U
191-24-2	Benzo (g,h,i) perylene	9100	U
58-90-2	2,3,4,6-Tetrachlorophenol	9100	U

<sup>1</sup>Cannot be separated from Diphenylamine

000001193

1K - FORM I SV-TIC  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.  
C2158

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-14  
 Sample wt/vol: 1.10 (g/mL) g Lab File ID: D1855.D  
 Level: (TRACE or LOW/MED) MED Extraction: (Type): SONC  
 % Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/24/2009  
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 2.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000526-73-8	Benzene, 1,2,3-trimethyl-	3.04	89000	JN
02	000108-67-8	Benzene, 1,3,5-trimethyl-	3.28	73000	JN
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A	2300000	J

<sup>2</sup>EPA-designated Registry Number.

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2139

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.:                      SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-01  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: F15751.D  
 % Moisture: 25.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/21/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.1 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
12674-11-2	AR1016	44	U
11104-28-2	AR1221	44	U
11141-16-5	AR1232	44	U
53469-21-9	AR1242	44	U
12672-29-6	AR1248	44	U
11097-69-1	AR1254	44	U
11096-82-5	AR1260	44	U
37324-23-5	AR1262	44	U
11100-14-4	AR1268	44	U

000001489

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2140

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-02  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: F15754.D  
 % Moisture: 21.1 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/21/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.0 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
12674-11-2	AR1016	42	U
11104-28-2	AR1221	42	U
11141-16-5	AR1232	42	U
53469-21-9	AR1242	42	U
12672-29-6	AR1248	42	U
11097-69-1	AR1254	42	U
11096-82-5	AR1260	42	U
37324-23-5	AR1262	42	U
11100-14-4	AR1268	42	U

000001492

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2141

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-03  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: F15755.D  
 % Moisture: 24.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/21/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.4 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
12674-11-2	AR1016	43	U
11104-28-2	AR1221	43	U
11141-16-5	AR1232	43	U
53469-21-9	AR1242	43	U
12672-29-6	AR1248	43	U
11097-69-1	AR1254	43	U
11096-82-5	AR1260	43	U
37324-23-5	AR1262	43	U
11100-14-4	AR1268	43	U

000001495

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2145

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-04  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: F15756.D  
 % Moisture: 9.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/21/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.3 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
12674-11-2	AR1016	36	U
11104-28-2	AR1221	36	U
11141-16-5	AR1232	36	U
53469-21-9	AR1242	36	U
12672-29-6	AR1248	36	U
11097-69-1	AR1254	36	U
11096-82-5	AR1260	36	U
37324-23-5	AR1262	36	U
11100-14-4	AR1268	36	U

000001430

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2146

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-05  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: F15757.D  
 % Moisture: 6.2 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/21/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.2 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
12674-11-2	AR1016	35	U
11104-28-2	AR1221	35	U
11141-16-5	AR1232	35	U
53469-21-9	AR1242	35	U
12672-29-6	AR1248	35	U
11097-69-1	AR1254	35	U
11096-82-5	AR1260	35	U
37324-23-5	AR1262	35	U
11100-14-4	AR1268	35	U

000001501

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2147

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-06  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: F15785.D  
 % Moisture: 0.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/24/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.1 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
12674-11-2	AR1016	33	U
11104-28-2	AR1221	33	U
11141-16-5	AR1232	33	U
53469-21-9	AR1242	33	U
12672-29-6	AR1248	33	U
11097-69-1	AR1254	33	U
11096-82-5	AR1260	33	U
37324-23-5	AR1262	33	U
11100-14-4	AR1268	33	U

000001504

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2148

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036

Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-07

Sample wt/vol: 30.3 (g/mL) g Lab File ID: F15758.D

% Moisture: 18.3 Decanted: (Y/N) N Date Received: 08/20/2009

Extraction: (Type) SONC Date Extracted: 08/20/2009

Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/21/2009

Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 5.1 Sulfur Cleanup: (Y/N) N

ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
12674-11-2	AR1016	40	U
11104-28-2	AR1221	40	U
11141-16-5	AR1232	40	U
53469-21-9	AR1242	40	U
12672-29-6	AR1248	40	U
11097-69-1	AR1254	40	U
11096-82-5	AR1260	40	U
37324-23-5	AR1262	40	U
11100-14-4	AR1268	40	U

000001503

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2149

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-08  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: F15759.D  
 % Moisture: 15.3 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/21/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.0 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
12674-11-2	AR1016	39	U
11104-28-2	AR1221	39	U
11141-16-5	AR1232	39	U
53469-21-9	AR1242	39	U
12672-29-6	AR1248	39	U
11097-69-1	AR1254	39	U
11096-82-5	AR1260	39	U
37324-23-5	AR1262	39	U
11100-14-4	AR1268	39	U

000001512

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2150

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-09  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: F15760.D  
 % Moisture: 14.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/21/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.2 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
12674-11-2	AR1016	39	U
11104-28-2	AR1221	39	U
11141-16-5	AR1232	39	U
53469-21-9	AR1242	39	U
12672-29-6	AR1248	39	U
11097-69-1	AR1254	39	U
11096-82-5	AR1260	39	U
37324-23-5	AR1262	39	U
11100-14-4	AR1268	39	U

000001515

1H - FORM I ARO  
 AROCLOR ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

C2151

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2139  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010734-10  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: F15784.D  
 % Moisture: 11.8 Decanted: (Y/N) N Date Received: 08/20/2009  
 Extraction: (Type) SONC Date Extracted: 08/20/2009  
 Concentrated Extract Volume: 10000 (uL) Date Analyzed: 08/24/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Dilution Factor: 1.0  
 GPC Cleanup: (Y/N) N pH: 5.3 Sulfur Cleanup: (Y/N) N  
 ACID Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
12674-11-2	AR1016	37	U
11104-28-2	AR1221	37	U
11141-16-5	AR1232	37	U
53469-21-9	AR1242	37	U
12672-29-6	AR1248	37	U
11097-69-1	AR1254	37	U
11096-82-5	AR1260	37	U
37324-23-5	AR1262	37	U
11100-14-4	AR1268	37	U

000001518



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
ENVIRONMENTAL SCIENCE CENTER  
701 MAPES ROAD  
FORT MEADE, MARYLAND 20755-5350

DATE : September 3, 2009

SUBJECT: Region III Data QA Review

FROM : Colleen Walling *Colleen C. Walling*  
Region III ESAT PO (3EA20)

TO : James Hargett  
Regional Program Manager (3HS12)

Attached is the organic validation report for the White Park site (CASE #: 38855; SDG#: C2144, C2170) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2763.

Attachment

cc: Pamela Hayes/Lydia Work (WV/TRIAD)

TO File#: 0021 TDF# 08110

OFFICE OF ANALYTICAL SERVICES AND QUALITY ASSURANCE

Lockheed Martin Enterprise Solutions & Services  
ESAT Region 3  
US EPA Environmental Science Center  
701 Mapes Road Ft. Meade, MD 20755-530  
Telephone 410-305-3037 Facsimile 410-305-3597

**DATE:** September 02, 2009

**SUBJECT:** Level M2 Organic Data Validation for Case 38855  
SDGs: C2144 and C2170  
Site: White Park

**FROM:** Shilpa Udani *Su*  
Organic Data Reviewer

Mahboobeh Mecanic *MM*  
Senior Oversight Chemist

**TO:** Colleen Walling  
ESAT Region 3 Project Officer

## **OVERVIEW**

Case 38855, Sample Delivery Groups (SDGs) C2144 and C2170, consisted of one (1) soil sample analyzed for volatile, semivolatile and aroclor compounds, four (4) soil samples analyzed for semivolatiles, three (3) aqueous samples analyzed for trace volatile and semivolatile compounds and one (1) trip blank analyzed for trace volatiles only. All samples were submitted to A4 Scientific, Inc. (A4) for analyses. The sample set included one (1) aqueous field duplicate pair and two (2) soil field duplicate pairs. Samples were analyzed according to Contract Laboratory Program (CLP) Statement of Work (SOW) SOM01.2 through the Routine Analytical Services (RAS) program.

## **SUMMARY**

Data were validated according to Region 3 Innovative Approaches for Validation of Organic Data, Level M2. This level of review includes assessment of all Quality Assurance/Quality Control (QA/QC) data and review of chromatograms, but excludes review of raw data and sample spectra. Areas that may impact data usability are listed below.

It should be noted that in SOW SOM01.2, 1,4-dioxane is no longer a target analyte by Trace VOC and Trace VOC SIM analyses. Using SOM01.2 for the detection and reporting of 1,4 dioxane at low and medium levels has not consistently generated data of sufficiently known quality. This is due to poor purge efficiency. Results for 1,4-dioxane using this method should be considered advisory.

**MINOR PROBLEMS**

- Several compounds failed precision criteria [Percent Relative Standard Deviation (%RSD) and/or Percent Difference (%D)] in the volatile, trace volatile and semivolatile initial and continuing calibrations. The associated positive results for acetone in affected samples were qualified “J” on the DSFs unless superseded by “B”. Precision did not exceed fifty percent (50%) criteria; therefore, quantitation limits were not qualified.
- The semivolatile sample C2144 had a recovery of Deuterated Monitoring Compound (DMC) benzo(a)pyrene-d12 outside the lower Quality Control (QC) limit. Quantitation limits for the compounds associated with this DMC were qualified “UL” on the DSFs.

**NOTES**

- Concentrations of target compounds found in the analysis of trip, method and storage blanks are listed below. Only compounds used to qualify data are listed. Samples with concentrations of common laboratory contaminants less than ten times (<10X) blank concentration have been qualified “B” on the DSFs.

<u>Blank</u>	<u>Compounds</u>	<u>Concentration</u>	<u>Affected Samples</u>
Trip (C2173)	Acetone	2.1 J ug/L	C2144, C2171, C2172
	Methylene chloride	1.1 ug/L	C2144, C2170, C2171, C2172

- Reported recoveries for aroclor Laboratory Control Samples (LCS) were within QC limits on both columns.
- Matrix Spike / Matrix Spike duplicate (MS/MSD) analyses of aroclor sample C2144 reported the Relative Percent Difference (RPD) outside control limit for AR1016 on column DB-35MS. No data were qualified based on this QC outlier.
- Sample C2144 was designated as the field duplicate of sample C2145 and sample C2166 was designated as the field duplicate sample C2155 on the Regional Chain-of-Custody (COC) records. Sample C2145 and C2155 were included in SDG C2139. Results for these samples are included in Appendix C. No positive results, other than blank contaminants, were reported in these sample pairs.
- Results for trace volatile and semivolatile field duplicate pair, samples C2171/C2172 (SDG C2170), were comparable for all compounds except bis(2-ethylhexyl)phthalate in semivolatile fraction.

- Sample weight other than five (5) grams in the volatile soil analyses and thirty (30) grams in semivolatile soil analyses were used for samples associated with this case. Dilution factors reported on DSFs reflect actual sample masses used.
- Encore tubes were used for collection of soil samples in this sample set. All samples were transferred and kept frozen until time of analysis.
- Tentatively Identified Compounds (TICs) were reviewed during data validation. Compounds identified as blank contaminants or common laboratory artifacts were crossed off TIC Form Is by the reviewer. TIC Form Is for samples in which TICs were identified are included in Appendix E.
- Compounds detected below Contract Required Quantitation Limits (CRQLs) were qualified “J” on the DSFs unless superseded by “B”.

All data for Case 38855, SDGs C2144 and C2170, were reviewed in accordance with Region III guideline Innovative Approaches for Validation of Organic Data (Level M2), June 1995.

#### **ATTACHMENTS**

Appendix A	Glossary of Data Qualifier Terms
Appendix B	Data Summary Form
Appendix C	Chain-of-Custody Records
Appendix D	Laboratory Case Narrative
Appendix E	Tentatively Identified Compounds (TICs)

DCN: 38855 – C2144 and C2170

## **Appendix A**

### **Glossary of Data Qualifiers**

## **GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)**

### CODES RELATED TO IDENTIFICATION

(confidence concerning presence or absence of compounds)

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

NO CODE = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

### CODES RELATED TO QUANTITATION

(can be used for both positive results and sample quantitation limits):

J = Analyte present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

### OTHER CODES

NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

Q = No analytical result.

## **Appendix B**

### Data Summary Forms



DATA SUMMARY FORM: Volatiles

Case #: 38855

SDG : C2144

Site :

WHITE PARK

Lab. :

A4

Sample Number :		C2144									
Sampling Location :		SB1									
Field QC :		Dup. of C2145									
Matrix :		Soil									
Units :		ug/Kg									
Date Sampled :		8/17/2009									
Time Sampled :		14:25									
%Moisture :		9.1									
Dilution Factor :		0.98									
Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	5.0										
Tetrachloroethene	5.0										
2-Hexanone	10										
Dibromochloromethane	5.0										
1,2-Dibromoethane	5.0										
Chlorobenzene	5.0										
Ethylbenzene	5.0										
o-Xylene	5.0										
m,p-Xylene	5.0										
Styrene	5.0										
Bromoform	5.0										
Isopropylbenzene	5.0										
1,1,1,2-Tetrachloroethane	5.0										
1,3-Dichlorobenzene	5.0										
1,4-Dichlorobenzene	5.0										
1,2-Dichlorobenzene	5.0										
1,2-Dibromo-3-chloropropane	5.0										
1,2,4-Trichlorobenzene	5.0										
1,2,3-Trichlorobenzene	5.0										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / [(100 - %Moisture) / 100]

Revised 09/99



DATA SUMMARY FORM: Trace Volatiles

Case #: 38855

SDG : C2170

Site :

WHITE PARK

Lab. :

A4

Sample Number :	C2170	C2171	C2172	C2173							
Sampling Location :	SW1	SW2	SW3	SW4							
Field QC :		Dup. of C2172	Dup. of C2171	Trip Blank							
Matrix :	Water	Water	Water	Water							
Units :	ug/L	ug/L	ug/L	ug/L							
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009							
Time Sampled :	15:54	13:55	14:10	16:15							
pH :	< 2	< 2	< 2	< 2							
Dilution Factor :	1.0	1.0	1.0	1.0							
Trace Volatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
*Tetrachloroethene	0.50										
2-Hexanone	5.0										
Dibromochloromethane	0.50										
1,2-Dibromoethane	0.50										
*Chlorobenzene	0.50										
*Ethylbenzene	0.50										
o-Xylene	0.50										
m,p-Xylene	0.50										
*Styrene	0.50										
Bromoform	0.50										
Isopropylbenzene	0.50										
1,1,2,2-Tetrachloroethane	0.50										
*1,3-Dichlorobenzene	0.50										
*1,4-Dichlorobenzene	0.50										
1,2-Dichlorobenzene	0.50										
1,2-Dibromo-3-chloropropane	0.50										
1,2,4-Trichlorobenzene	0.50										
1,2,3-Trichlorobenzene	0.50										

CRQL = Contract Required Quantitation Limit

\*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor)

Revised 09/99



Case #: 38855

SDG : C2144

Site :

WHITE PARK

Lab. :

A4

Sample Number :	C2144	C2165	C2166	C2167	C2168						
Sampling Location :	SB1	SS11	SS12	SS15	SS16						
Field QC :	Dup. of C2145		Dup. of C2155								
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/17/2009	8/18/2009	8/19/2009	8/17/2009	8/17/2009						
Time Sampled :	14:25	10:05	14:20	10:15	16:19						
%Moisture :	9.1	18	10.9	31.1	4.1						
Dilution Factor :	1.0	0.99	1.0	1.0	1.0						
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	330										
4-Nitrophenol	330										
Dibenzofuran	170										
2,4-Dinitrotoluene	170										
Diethylphthalate	170										
Fluorene	170										
4-Chlorophenyl-phenylether	170										
4-Nitroaniline	330										
4,6-Dinitro-2-methylphenol	330										
N-Nitrosodiphenylamine	170										
1,2,4,5-Tetrachlorobenzene	170										
4-Bromophenyl-phenylether	170										
Hexachlorobenzene	170										
Atrazine	170										
Pentachlorophenol	330										
Phenanthrene	170			85	J			80	J		
Anthracene	170			18	J						
Carbazole	170										
Di-n-butylphthalate	170										
Fluoranthene	170			210	J			170	J		
Pyrene	170			210	J			150	J		
Butylbenzylphthalate	170										
3,3'-Dichlorobenzidine	170										
Benzo(a)anthracene	170			130	J			98	J		
Chrysene	170			120	J			86	J		
Bis(2-ethylhexyl)phthalate	170			60	J						
Di-n-octylphthalate	170										
Benzo(b)fluoranthene	170		UL	84	J			120	J		
Benzo(k)fluoranthene	170		UL	86	J			48	J		
Benzo(a)pyrene	170		UL	81	J			80	J		
Indeno(1,2,3-cd)pyrene	170		UL	62	J			66	J		
Dibenzo(a,h)anthracene	170		UL								
Benzo(g,h,i)perylene	170		UL	68	J			68	J		
2,3,4,6-Tetrachlorophenol	170										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / [(100 - %Moisture) / 100]

Revised 09/99



Case #: 38855

SDG : C2170

Site :

WHITE PARK

Lab. :

A4

Sample Number :		C2170	C2171	C2172							
Sampling Location :		SW1	SW2	SW3							
Field QC :			Dup. of C2172	Dup. of C2171							
Matrix :		Water	Water	Water							
Units :		ug/L	ug/L	ug/L							
Date Sampled :		8/17/2009	8/17/2009	8/17/2009							
Time Sampled :		15:54	13:55	14:10							
Dilution Factor :		1.0	1.0	1.0							
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	10										
4-Nitrophenol	10										
Dibenzofuran	5.0										
2,4-Dinitrotoluene	5.0										
Diethylphthalate	5.0										
Fluorene	5.0										
4-Chlorophenyl-phenylether	5.0										
4-Nitroaniline	10										
4,6-Dinitro-2-methylphenol	10										
N-Nitrosodiphenylamine	5.0										
1,2,4,5-Tetrachlorobenzene	5.0										
4-Bromophenyl-phenylether	5.0										
*Hexachlorobenzene	5.0										
Atrazine	5.0										
*Pentachlorophenol	10										
Phenanthrene	5.0										
Anthracene	5.0										
Carbazole	5.0										
Di-n-butylphthalate	5.0										
Fluoranthene	5.0										
Pyrene	5.0										
Butylbenzylphthalate	5.0										
3,3'-Dichlorobenzidine	5.0										
Benzo(a)anthracene	5.0										
Chrysene	5.0										
Bis(2-ethylhexyl)phthalate	5.0	1.4	J	6.1							
Di-n-octylphthalate	5.0										
Benzo(b)fluoranthene	5.0										
Benzo(k)fluoranthene	5.0										
Benzo(a)pyrene	5.0										
Indeno(1,2,3-cd)pyrene	5.0										
Dibenzo(a,h)anthracene	5.0										
Benzo(g,h,i)perylene	5.0										
2,3,4,6-Tetrachlorophenol	5.0										

CRQL = Contract Required Quantitation Limit

\*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor)

Revised 09/99

DATA SUMMARY FORM: Aroclor

Case #: 38855

SDG : C2144

Number of Soil Samples : 1

Site :

WHITE PARK

Number of Water Samples : 0

Lab. :

A4

Sample Number :	C2144										
Sampling Location :	SB1										
Field QC :	Dup. of C2145										
Matrix :	Soil										
Units :	ug/Kg										
Date Sampled :	8/17/2009										
Time Sampled :	14:25										
%Moisture :	9.1										
Dilution Factor :	1.0										
Aroclor Compound	CRQL	Result	Flag								
Aroclor-1016	33										
Aroclor-1221	33										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										
Aroclor-1262	33										
Aroclor-1268	33										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99

## **Appendix C**

### **Chain of Custody (COC) Records**



**USEPA Contract Laboratory Program  
Organic Traffic Report & Chain of Custody Record**

Case No: 38855

R

Region: 3	Date Shipped: 8/19/2009	Carrier Name: FedEx	Relinquished By: <i>[Signature]</i>	Sampler Signature: _____
Project Code: CT4648	Airbill: 868304289219	Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-9277	Received By: _____	(Date / Time) _____
Account Code: 2009 T 03W 302DD2C A3AXS100			3	
CERCLIS ID: WVD988766168			4	
Spill ID: _____				
Site Name/State: White Park/WV				
Project Leader: Carol Phillips				
Action: Site Inspection Reassessment				
Sampling Co: Triad Engineering, Inc.				

ORGANIC SAMPLE NO.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNOVER	PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE NO.	QC Type
C2139	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	31 (Ice Only), 36 (Ice Only), 386 (Ice Only), 387 (Ice Only), 388 (Ice Only), 389 (Ice Only), 390 (Ice Only), 391 (Ice Only), 392 (Ice Only), 393 (Ice Only), 394 (Ice Only) (11)	SD1	S: 8/17/2009 15:28	MC2139	
C2140	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	310 (Ice Only), 311 (Ice Only), 312 (Ice Only), 313 (Ice Only), 38 (Ice Only), 39 (Ice Only) (6)	SD2	S: 8/17/2009 14:05	MC2140	
C2141	Sediment/ Carol Phillips	M/G	BNA (7), PCB (7), VOA (7)	315 (Ice Only), 316 (Ice Only), 317 (Ice Only), 318 (Ice Only), 319 (Ice Only), 320 (Ice Only) (6)	SD3	S: 8/17/2009 14:20	MC2141	Field Duplicate of C2140
C2144	Subsurface Soil (>12"y Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	322 (Ice Only), 323 (Ice Only), 324 (Ice Only), 325 (Ice Only), 326 (Ice Only), 327 (Ice Only), 328 (Ice Only), 329 (Ice Only), 330 (Ice Only), 331 (Ice Only), 332 (Ice Only), 333 (Ice Only), 334 (Ice Only), 335 (Ice Only) (14)	SB1	S: 8/17/2009 14:25	MC2144	
C2145	Subsurface Soil (>12"y Julie Szymanek	M/G	BNA (7), PCB (7), VOA (7)	337 (Ice Only), 338 (Ice Only), 339 (Ice Only), 340 (Ice Only), 341 (Ice Only), 342 (Ice Only) (6)	SB2	S: 8/17/2009 14:27	MC2145	Field Duplicate of C2141

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s): _____	Chain of Custody Seal Number: _____
Analysis Key: BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

**TR Number: 3-043013577-081909-0002**  
 PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
 Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

**REGION COPY**

F2V5.1.047 Page 1 of 4



**USEPA Contract Laboratory Program  
Organic Traffic Report & Chain of Custody Record**

Case No: 38855

DAS No:

R

Region: 3	Date Shipped: 8/19/2009	Carrier Name: FedEx	8/19/2009
Project Code: CT4648	Carrier Name: 868304289219	Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277	Relinquished By <i>[Signature]</i>
Account Code: 2009 T 03W 302DD2C A3AXS100	Airbill: WVD988766168		Received By <i>[Signature]</i>
CERCLIS ID: WVD988766168	Site Name/State: White Park/VV		(Date / Time)
Spill ID:	Project Leader: Carol Phillips		
Site Name/State:	Action: Site Inspection Reassessment		
Project Leader:	Sampling Co: Triad Engineering, Inc.		
Sampling Co:			

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSES/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2168	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3121 (Ice Only) (1)	SS16	S: 8/17/2009 16:19	MC2168	--
C2170	Surface Water/ Carol Phillips	M/G	BNA (7), VOA (7)	3123 (Ice Only), 3124 (Ice Only), 3125 (Ice Only), 3126 (HCL), 3127 (HCL), 3128 (HCL), 3129 (HCL), 3130 (HCL), 3131 (HCL) (9) 3135 (Ice Only), 3136 (HCL), 3137 (HCL) (3)	SW1	S: 8/17/2009 15:54	MC2170	--
C2171	Surface Water/ Carol Phillips	M/G	BNA (7), VOA (7)	3139 (Ice Only), 3140 (HCL), 3141 (HCL) (3)	SW2	S: 8/17/2009 13:55	MC2171	--
C2172	Surface Water/ Carol Phillips	M/G	BNA (7), VOA (7)	3143 (HCL), 3144 (HCL) (2)	SW3	S: 8/17/2009 14:10	MC2172	Field Duplicate <i>[Signature]</i>
C2173	Surface Water/ Carol Phillips	M/G	VOA (7)		SW4	S: 8/17/2009 16:15		Trip Blank

Shipment for Case Complete ? N	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

**TR Number: 3-043013577-081909-0002**

PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

**REGION COPY**



**USEPA Contract Laboratory Program  
Organic Traffic Report & Chain of Custody Record**

Case No: 38855

DAS No:

R

Region: 3	Date Shipped: 8/19/2009	Carrier Name: FedEx	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
Project Code: CT4648	Airbill: 868304289219	Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 (281) 292-5277	TAG No./ PRESERVATIVE/ Bottles			
Account Code: 2009 T 03W 302DD2C A3AXS100						
CERCLIS ID: WVD988766168						
Spill ID:						
Site Name/State: White Park/WV						
Project Leader: Carol Phillips						
Action: Site Inspection Reassessment						
Sampling Co: Triad Engineering, Inc.						

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No.	QC Type
C2157	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	399 (Ice Only) (1)	SS3	S: 8/18/2009 11:28	MC2157	--
C2158	Soil/Sediment/ Carol Phillips	H/G	BNA (7)	3101 (Ice Only) (1)	SS4	S: 8/18/2009 15:40	MC2158	--
C2159	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3103 (Ice Only) (1)	SS5	S: 8/17/2009 12:02	MC2159	--
C2160	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3105 (Ice Only) (1)	SS6	S: 8/17/2009 12:16	MC2160	--
C2161	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3107 (Ice Only) (1)	SS7	S: 8/17/2009 11:35	MC2161	--
C2162	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3109 (Ice Only) (1)	SS8	S: 8/17/2009 10:14	MC2162	--
C2163	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3111 (Ice Only) (1)	SS9	S: 8/17/2009 11:21	MC2163	--
C2164	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3113 (Ice Only) (1)	SS10	S: 8/18/2009 10:05	MC2164	--
C2165	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3115 (Ice Only) (1)	SS11	S: 8/18/2009 10:05	MC2165	--
C2166	Soil/Sediment/ Julie Szymanek	M/G	BNA (7)	3117 (Ice Only) (1)	SS12	S: 8/19/2009 14:20	MC2166	Field Duplicate of C2155
C2167	Soil/Sediment/ Carol Phillips	M/G	BNA (7)	3119 (Ice Only) (1)	SS15	S: 8/17/2009 10:15	MC2167	--

Shipment for Case Completed? Y	Sample(s) to be used for laboratory QC: C2139, C2144, C2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: BNA = CLP TCL Semivolatiles, PCB = PCBs (AROCLORS), VOA = CLP TCL Volatiles	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

TR Number: 3-043013577-081909-0002

PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

REGION COPY

975 8-3-09

# U.S. EPA Region III Analytical Request Form

ASQAB USE ONLY	ANALYTICAL DATA
TRASH# CT4648	
DASH#	
INSBY#	7 Days

38855

Date: 7/30/2009		Site Activity: Site Inspection Reassessment	
Site Name: White Park		Street Address: Mississippi Street	
City: Morgantown	State: WV	Latitude: 39° 36' 41.70"	Longitude: 79° 57' 55.25"
Program: Superfund		CERCLIS #: WVD988766168	
Site ID:	Spill ID:	Operable Unit: 0	
Site Specific QA Plan Submitted: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Title: Sampling and Analysis Plan, White Park, Rev. 0 July 2009 Date Approved: July 30, 2009			
EPA Project Leader: James Hargett	Phone#: 215-814-3305	Cell Phone #:	E-mail: hargett.james@epa.gov
Request Preparer: Lydia Work	Phone#: 304-296-2562	Cell Phone #:	E-mail: lwork@triadeng.com
Site Leader: Pam Hayes, WVDEP	Phone#: 304-926-0499	Cell Phone #:	E-mail: Pamela.D.Hayes@wv.gov
Contractor: Triad Engineering, Inc.			
#Samples 36 + 6 = 42	Matrix: Soil	Parameter: SVOC	Method: SOM01.2
#Samples 36 + 6 = 42	Matrix: Soil	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 17 + 6 = 23	Matrix: Soil	Parameter: VOC, PCB	Method: SOM01.2
#Samples 6	Matrix: Sediment	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Sediment	Parameter: VOC, SVOC, PCB	Method: SOM01.2
#Samples 7 + 6 = 13	Matrix: Water, non-potable	Parameter: Trace VOC, SVOC	Method: SOM01.2
#Samples 7 + 6 = 13	Matrix: Water, non-potable	Parameter: Dissolved As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Surface Water	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Surface Water	Parameter: Trace VOC, SVOC	Method: SOM01.2
Ship Date From: 8/17/2009	Ship Date To: 8/22/2009	Org. Validation Level: M2	Inorg. Validation Level: IM1
Unvalidated Data Requested: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, TAT Needed: <input type="checkbox"/> 24hrs <input type="checkbox"/> 48hrs <input type="checkbox"/> 72hrs <input type="checkbox"/> 7days <input type="checkbox"/> Other (Specify)			
Validated Data Package Due: <input type="checkbox"/> 42 days <input type="checkbox"/> 30 days <input type="checkbox"/> 21 days <input checked="" type="checkbox"/> 14 days <input type="checkbox"/> Other (Specify) 7/7			
Electronic Data Deliverables Required: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (EDDs will be provided in Region 3 EDD Format)			
Special Instructions:			



Case #: 38855

SDG : C2139

Site :

WHITE PARK

Lab. :

A4

Sample Number :		C2139	C2140	C2141	C2145	C2146					
Sampling Location :		SD1	SD2	SD3	SB2	SB3					
Field QC:			Field Dup. of C2141	Field Dup. of C2140	Field Dup. of C2144						
Matrix :		Soil	Soil	Soil	Soil	Soil					
Units :		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg					
Date Sampled :		8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009					
Time Sampled :		15:28	14:05	14:20	14:27	11:35					
%Moisture :		25.3	21.1	24.3	9.2	6.2					
Dilution Factor :		0.97	1.13	1.03	1.17	1.43					
Volatiles Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	5.0										
Tetrachloroethene	5.0							UL			
2-Hexanone	10										
Dibromochloromethane	5.0										
1,2-Dibromoethane	5.0			UL		UL					
Chlorobenzene	5.0										
Ethylbenzene	5.0							UL			
o-Xylene	5.0							UL			
m,p-Xylene	5.0							UL			
Styrene	5.0							UL			
Bromoform	5.0										
Isopropylbenzene	5.0							UL			
1,1,1,2-Tetrachloroethane	5.0										
1,3-Dichlorobenzene	5.0										
1,4-Dichlorobenzene	5.0										
1,2-Dichlorobenzene	5.0										
1,2-Dibromo-3-chloropropane	5.0										
1,2,4-Trichlorobenzene	5.0										
1,2,3-Trichlorobenzene	5.0										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99



Case #: 38855  
 Site :  
 Lab. :

SDG : C2139  
 WHITE PARK  
 A4

Sample Number :	C2139	C2140	C2141	C2145	C2146				
Sampling Location :	SD1	SD2	SD3	SB2	SB3				
Field QC:		Field Dup. of C2141	Field Dup. of C2140	Field Dup. of C2144					
Matrix :	Soil	Soil	Soil	Soil	Soil				
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg				
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009				
Time Sampled :	15:28	14:05	14:20	14:27	11:35				
%Moisture :	25.3	21.1	24.3	9.2	6.2				
Dilution Factor :	0.99	0.99	1.0	0.99	0.99				
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	330								
4-Nitrophenol	330								
Dibenzofuran	170								
2,4-Dinitrotoluene	170								
Diethylphthalate	170						UL		
Fluorene	170								
4-Chlorophenyl-phenylether	170								
4-Nitroaniline	330								
4,6-Dinitro-2-methylphenol	330								
N-Nitrosodiphenylamine	170								
1,2,4,5-Tetrachlorobenzene	170								
4-Bromophenyl-phenylether	170								
Hexachlorobenzene	170								
Atrazine	170								
Pentachlorophenol	330								
Phenanthrene	170	480							
Anthracene	170	49	J						
Carbazole	170	69	J						
Di-n-butylphthalate	170							UL	
Fluoranthene	170	1200						UL	
Pyrene	170	910						UL	
Butylbenzylphthalate	170							UL	
3,3'-Dichlorobenzidine	170							R	R
Benzo(a)anthracene	170	460						UL	
Chrysene	170	540						UL	
Bis(2-ethylhexyl)phthalate	170	140	J					UL	
Di-n-octylphthalate	170							UL	
Benzo(b)fluoranthene	170	510							
Benzo(k)fluoranthene	170	530							
Benzo(a)pyrene	170	500							
Indeno(1,2,3-cd)pyrene	170	540	J						
Dibenzo(a,h)anthracene	170								
Benzo(g,h,i)perylene	170	380							
2,3,4,6-Tetrachlorophenol	170								

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / [(100 - %Moisture) / 100]

Revised 09/99



Case #: 38855

SDG : C2139

Site :

WHITE PARK

Lab. :

A4

Sample Number :	C2155	C2156	C2157	C2158	C2159						
Sampling Location :	SS1	SS2	SS3	SS4	SS5						
Field QC:	Field Dup. of C2166										
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/19/2009	8/18/2009	8/18/2009	8/18/2009	8/17/2009						
Time Sampled :	14:18	14:40	11:28	15:40	12:02						
%Moisture :	10.0	13.8	10.8	0	24.8						
Dilution Factor :	1.0	1.0	0.99	29.27	0.98						
Semivolatile Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
2,4-Dinitrophenol	330										
4-Nitrophenol	330										
Dibenzofuran	170										
2,4-Dinitrotoluene	170										
Diethylphthalate	170										
Fluorene	170										
4-Chlorophenyl-phenylether	170										
4-Nitroaniline	330										
4,6-Dinitro-2-methylphenol	330										
N-Nitrosodiphenylamine	170										
1,2,4,5-Tetrachlorobenzene	170										
4-Bromophenyl-phenylether	170										
Hexachlorobenzene	170										
Atrazine	170										
Pentachlorophenol	330										
Phenanthrene	170					1800	J				
Anthracene	170										
Carbazole	170										
Di-n-butylphthalate	170										
Fluoranthene	170										
Pyrene	170										
Butylbenzylphthalate	170										
3,3'-Dichlorobenzidine	170		R				R				
Benzo(a)anthracene	170										
Chrysene	170										
Bis(2-ethylhexyl)phthalate	170										
Di-n-octylphthalate	170										
Benzo(b)fluoranthene	170										
Benzo(k)fluoranthene	170										
Benzo(a)pyrene	170										
Indeno(1,2,3-cd)pyrene	170										
Dibenzo(a,h)anthracene	170										
Benzo(g,h,i)perylene	170										
2,3,4,6-Tetrachlorophenol	170										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / [(100 - %Moisture) / 100]

Revised 09/99

Case #: 38855

SDG : C2139

Number of Soil Samples : 10

Site :

WHITE PARK

Number of Water Samples : 0

Lab. :

A4

Sample Number :	C2139	C2140	C2141	C2145	C2146						
Sampling Location :	SD1	SD2	SD3	SB2	SB3						
Field QC:		Field Dup. of C2141	Field Dup. of C2140	Field Dup. of C2144							
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg						
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	15:28	14:05	14:20	14:27	11:35						
%Moisture :	25.3	21.1	24.3	9.2	6.2						
Dilution Factor :	0.99	1.0	0.99	0.99	1.0						
Aroclor Compound	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Aroclor-1016	33										
Aroclor-1221	33										
Aroclor-1232	33										
Aroclor-1242	33										
Aroclor-1248	33										
Aroclor-1254	33										
Aroclor-1260	33										
Aroclor-1262	33										
Aroclor-1268	33										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits:  $(CRQL * Dilution Factor) / [(100 - \%Moisture) / 100]$

Revised 09/99

## **Appendix D**

### Laboratory Case Narrative

Contract #: EPW05036	Case #: 38855	SDG #: C2144
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SDG NARRATIVE

**SAMPLE RECEIPT & LOGIN**

The following samples were received on the dates listed against them. The samples were logged in for analysis as listed.

<u>Client Sample</u>	<u>Lab Sample</u>	<u>Matrix</u>	<u>#Cont.</u>	<u>Received</u>	<u>Analysis</u>	<u>Comments</u>
C2144	0010735-01	Soil	14	08/20/09 09:51	SOM01.2 VOA LOW	SDG FIRST SX-MS/MSD(AR O ONLY)
					SOM01.2 SVOA	
					SOM01.2 ARO	
C2165	0010735-02	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2166	0010735-03	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2167	0010735-04	Soil	1	08/20/09 09:51	SOM01.2 SVOA	
C2168	0010735-05	Soil	1	08/20/09 09:51	SOM01.2 SVOA	

The cooler temperatures are listed against the coolers.

DATE RECEIVED	COOLER NO.	Temp (in °C)	Airbill No.
8/19/09	1	6	868304289219
8/19/09	2	6	868304289219

No other discrepancies or issues were noted during sample receipt and login.

**VOLATILES LOW/MEDIUM**

Samples were analyzed using instrument H-5975.

Instrument H-5975 consisted of an Agilent 5975 GC/MS with a 25-meter long DB-624 (Agilent cat#128-1324) column having a 0.2mm ID and 1.12µm film thickness, Tekmar Purge and Trap Model LSC2000 with an Archon auto sampler. The trap used was a #10 trap (OI Cat# 258822) having an approximate composition of 40% Tenax, 30% Silica gel and 30% CMS.

Upon receipt of the soil encore samples, encores were transferred to closed loop vials and were frozen as per the SOW specifications.

MS/MSD was not required.

000000001

Contract #: EPW05036	Case #: 38855	SDG #: C2144
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Manual integrations were performed for the following samples for the compounds listed against them.

Compound	EPA Sample ID
Dichlorofluoromethane	VSTD025GD, VSTD050GD, VSTD005GD, VSTD2.5GD, VSTD025GE, VSTD025GF, VSTD025GG, VSTD025GH
Bromomethane	VSTD025GD, VSTD100GD, VSTD050GD, VSTD005GD, VSTD2.5GD, VSTD025GE, VSTD025GF, VSTD025GG, VSTD025GH, VSTD025GI
Chloroethane	VSTD025GD, VSTD100GD, VSTD050GD, VSTD025GF
Chloroethane-d5	VSTD050GD
Vinyl Chloride-d3	VSTD005GD, VSTD2.5GD, VSTD025GH, VSTD025GI, VBLKGG, VIBLCAA
Chloromethane	VSTD005GD, VSTD2.5GD, VSTD025GH
Vinyl Chloride	VSTD2.5GD
1, 1, 2-Trichloro-1, 2, 2-trif	VSTD025GF

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

**SEMI-VOLATILES**

**1) Extractions**

Soil samples were extracted by sonication method. GPC cleanup was performed on soil samples and the associated Blank. No problems were encountered during the extraction.

**2) Analysis**

All samples were analyzed on an Agilent-5973 GC/MS using a 30-meter HP-5MS column (Agilent cat#19091S-433) having a 0.25mm ID and a 0.25µm film thickness. A 1µL injection was used.

MS/MSD was not required.

Manual integrations were performed for the following samples for the compounds listed against them.

Compound	EPA Sample ID
Phenol-d5	C2144, C2165, C2166, C2167, C2168, SSTD0802A, SSTD0402A, SSTD0052A, SSTD0102A, SSTD0202A, SSTD0202B, SSTD0202C, SBLK4R
Benzo (b) fluoranthene	C2165, C2167, SSTD0052A, SSTD0102A
Benzo (k) fluoranthene	C2165, C2167, SSTD0052A, SSTD0102A, SSTD0202A, SSTD0202B, SSTD0202C
Indeno (1, 2, 3-cd) pyrene	C2165, C2167, SSTD0802A, SSTD0402A, SSTD0052A, SSTD0102A, SSTD0202A, SSTD0202B, SSTD0202C
Caprolactam	SSTD0802A

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

Contract #: EPW05036	Case #: 38855	SDG #: C2144
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**AROCLORS**

**1) Extractions**

Soil samples were extracted by sonication method followed by sulfuric acid cleanup. No problems were encountered during extraction.

**2) Analysis**

Samples were analyzed using instrument F-6890.

Instrument F-6890 consisted of a dual inlet, dual ECD Agilent 6890 GC/ECD instrument with the following two columns manufactured by Agilent. A 1µL injection was used on each column.

- Column 1= DB-XLB: Cat # 1281222, 25m long, 0.2mm ID, 0.33µm film thickness (Instrument ID: F-6890A).
- Column 2= DB-35MS: Cat # 1283822, 25m long, 0.2mm ID, 0.33µm film thickness (Instrument ID: F-6890B).

MS/MSD was performed on sample C2144.

Manual integrations were performed for the following compounds for the samples listed against them.

COMPOUND	EPA SAMPLE ID (Inst=F-6890A)	EPA SAMPLE ID (Inst=F-6890A)
AR1260{3}		AR16603EO
AR1232{2}		AR12323CH
Decachlorobiphenyl	AIBLKEP, AR16603EP	AR12213CH, AR12323CH, AR12423CH, AR12483CH, AR12543CH, AR12623CH, AR16601CH, AR16602CH, AR16603CH, AR16604CH, AR16605CH, AIBLKCH, AIBLKEP, AR16603EP

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

The following equations were used for calculation of the sample results from raw instrument output data:

**VOLATILES**

**Low Level Soil/Sediment:**

$$\text{Concentration } (\mu\text{g/Kg}) = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(W_s)(D)}$$

- A<sub>x</sub> = Area of the characteristic ion (EICP) for the compound to be measured.
- A<sub>is</sub> = Area of the characteristic ion (EICP) for the specific internal standard.
- I<sub>s</sub> = Amount of internal standard added in nanograms (ng).

- RRF = Mean relative response factor from the heated purge of the initial calibration.
- W<sub>s</sub> = Weight of sample added to the purge tube, in grams (g).

Contract #: EPW05036	Case #: 38855	SDG #: C2144
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$$D = \frac{100 - \%moisture}{100}$$

DF = Dilution Factor

**Medium Level Soil/Sediment:**

$$\text{Concentration } (\mu\text{g/Kg}) = \frac{(A_x)(I_s)(AVt)1000(DF)}{(A_{is})(RRF)(V_a)(W_s)(D)}$$

$A_x$  = Area of the characteristic ion (EICP) for the compound to be measured.

$A_{is}$  = Area of the characteristic ion (EICP) for the specific internal standard.

$I_s$  = Amount of internal standard added in nanograms (ng).

RRF = Mean relative response factor from the heated purge of the initial calibration.

$W_s$  = Weight of sample added to the purge tube, in grams (g).

$$D = \frac{100 - \%moisture}{100}$$

DF = Dilution Factor

AVt = Adjusted Total Volume of the Methanol Extract in milliliters (mL)

$$AVt = Vt + \{W_s - [W_s(D)]\}$$

Where Vt is the total volume of methanol extract in mL.

The Quantity derived from  $\{W_s - [W_s(D)]\}$  is the soil water volume expressed in mL.

**Semivolatiles:**

**Soil/Sediment:**

$$\text{Concentration } (\mu\text{g/Kg}) \text{ (Dry weight Basis)} = \frac{(A_x)(I_s)(V_t)(D_f)(GPC)}{(A_{is})(RRF)(V_i)(W_s)(D)}$$

$A_x$  = Area of the characteristic ion for the compound to be measured.

$A_{is}$  = Area of the characteristic ion for the internal standard.

$I_s$  = Amount of internal standard injected in nanograms (ng).

$V_t$  = Volume of concentrated extract in microliters (μL).

$V_i$  = Volume of extracted infected in microliters (μL).

$$D = \frac{100 - \%moisture}{100}$$

$W_s$  = Weight of sample extracted in grams (g).

Df = Dilution Factor.

$$GPC = \frac{V_{in}}{V_{out}} = \text{GPC Factor. ( If, no GPC is performed, GPC=1).}$$

$V_{in}$  = Volume of extract loaded onto GPC column.

$V_{out}$  = Volume of extract collected after the GPC cleanup.

RRF = Mean relative response factor determined from the initial calibration.

**Aroclors**

Contract #: EPW05036	Case #: 38855	SDG #: C2144
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Soil/Sediment:

$$\text{Concentration } \mu\text{g/Kg (Dry weight basis)} = \frac{(A_x)(V_t)(D_f)(GPC)}{(CF)(V_i)(W_s)(D)}$$

$A_x$  = Area of the peak for the compound to be measured.

$\overline{CF}$  = Mean Calibration factor from the initial calibration standard (area/ng).

$V_t$  = Volume of concentrated extract in microliters ( $\mu\text{L}$ ).

$V_i$  = Volume of extract injected in microliters ( $\mu\text{L}$ ). (If a single injection is made onto two columns, use  $\frac{1}{2}$  the volume in the syringe as the volume injected onto each column).

$W_s$  = Weight of sample extracted (g).

$D_f$  = Dilution Factor.

$$D = \% \text{ dry weight or } \frac{100 - \% \text{ moisture}}{100}$$

$$GPC = \frac{V_{in}}{V_{out}} = \text{GPC Factor. (If no GPC is performed, GPC=1).}$$

$V_{in}$  = Volume of extract loaded onto GPC column.

$V_{out}$  = Volume of extract collected after the GPC cleanup.

I certify that this Sample Data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy Sample Data Package and in the electronic data deliverable has been authorized by the laboratory Manager or Manager's designee, as verified by the following signature.

S. Vukoti (Lab Director)  
Signature and Title

08/26/09.  
Date of Signature

Contract #: EPW05036	Case #: 38855	SDG #: C2170
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SDG NARRATIVE

**SAMPLE RECEIPT & LOGIN**

The following samples were received on the dates listed against them. The samples were logged in for analysis as listed.

<u>Client Sample</u>	<u>Lab Sample</u>	<u>Matrix</u>	<u>#Cont.</u>	<u>Received</u>	<u>Analysis</u>	<u>Comments</u>
C2170	0010736-01	Water	5	08/20/09 09:51	SOM01.2 VOA TRACE SOM01.2 SVOA	SDG FIRST SX-MS/MSD
C2171	0010736-02	Water	3	08/20/09 09:51	SOM01.2 VOA TRACE SOM01.2 SVOA	
C2172	0010736-03	Water	3	08/20/09 09:51	SOM01.2 VOA TRACE SOM01.2 SVOA	
C2173	0010736-04	Water	2	08/20/09 09:51	SOM01.2 VOA TRACE	SDG FINAL SX

The cooler temperatures are listed against the coolers.

DATE RECEIVED	COOLER NO.	Temp (in °C)	Airbill No.
8/20/2009	1	4	868304289219

The following issues were noted:

**Issue:** The TR/COC lists the analysis as VOA and SVOA; however per scheduling the analysis should be TVOA and SVOA.

**Resolution:** Per Region 3, the laboratory has noted the issue, performed the analyses as indicated on the Scheduling Notification Form, and proceeded with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect analysis.

Directive (email) is enclosed. No other discrepancies or issues were noted during sample receipt and login.

**VOLATILES TRACE**

Samples were analyzed using instrument C-5973.

Instrument C-5973 consisted of an Agilent 5973 GC/MS with a 25-meter long DB-624 (Agilent cat#128-1324) column having a 0.2mm ID and 1.12µm film thickness, OI Purge and Trap Model 4560 with an Archon auto sampler. The trap used was a #10 trap (OI Cat# 228122) having an approximate composition of 40% Tenax, 30% Silica gel and 30% CMS.

All VOA samples had the pH characteristics verified. The reading is listed below.

EPA SAMPLE #	LAB SAMPLE #	pH	000000001
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Contract #: EPW05036	Case #: 38855	SDG #: C2170
----------------------	---------------	--------------

C2170	0010736-01	≤ 2
C2171	0010736-02	≤ 2
C2172	0010736-03	≤ 2
C2173	0010736-04	≤ 2

MS/MSD was not required.

Manual integrations were performed for the following samples for the compounds listed against them.

Compound	EPA Sample ID
Dichlorofluoromethane	VSTD0.546
Bromomethane	VSTD00146, VSTD0.546
Chloroethane	VSTD00146, VSTD0.546
Chloroethane-d5	VSTD00146
Vinyl Chloride-d3	VSTD0.546
Vinyl Chloride	VSTD0.546
Trichlorofluoromethane	VSTD0.546

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

#### SEMI-VOLATILES

##### 1) Extractions

Water samples and associated blanks were extracted by continuous liquid-liquid extraction method. No problems were encountered during extraction.

##### 2) Analysis

All samples were analyzed on an Agilent-5973 GC/MS using a 30-meter HP-5MS column (Agilent cat#19091S-433) having a 0.25mm ID and a 0.25µm film thickness. A 1µL injection was used.

MS/MSD was not required.

Manual integrations were performed for the following samples for the compounds listed against them.

Compound	EPA Sample ID
Phenol-d5	SSTD0201E, SSTD0801E, SSTD0401E, SSTD0101E, SSTD0051E, SSTD0201F, C2170, C2171, C2172, SSTD0201P, SSTD0201Q
Benzo (b) fluoranthene	SSTD0051E
Benzo (k) fluoranthene	SSTD0201E, SSTD0401E, SSTD0101E, SSTD0051E
Indeno (1, 2, 3-cd) pyrene	SSTD0201E, SSTD0801E, SSTD0401E, SSTD0101E, SSTD0051E, SSTD0201P, SSTD0201Q
Caprolactam	SSTD0801E

These manual integrations were necessary because the software failed to accurately integrate the entire peak. In all the above instances, the quantitation reports are flagged with "m". A hard copy printout of the manual integration, the scan ranges, and initials of the analyst or manager is included in the data package.

000000002

Contract #: EPW05036	Case #: 38855	SDG #: C2170
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The following equations were used for calculation of the sample results from raw instrument output data:

**VOLATILES**

**Water (Low/Med, Trace & SIM):**

$$\text{Concentration } (\mu\text{g/L}) = \frac{(A_x)(I_s)(Df)}{(A_{is})(RRF)(V_o)}$$

$A_x$  = Area of the characteristic ion (EICP) for the compound to be measured.

$A_{is}$  = Area of the characteristic ion (EICP) for the internal standard.

$I_s$  = Amount of internal standard added in nanograms (ng).

$\overline{RRF}$  = Mean relative response factor from the initial calibration.

$V_o$  = Total volume of water purged, in milliliters (mL).

Df = Dilution factor.

**Semivolatiles:**

**Water**

$$\text{Concentration } (\mu\text{g/L}) = \frac{(A_x)(I_s)(V_t)(Df)(GPC)}{(A_{is})(RRF)(V_o)(V_i)}$$

$A_x$  = Area of the characteristic ion for the compound to be measured.

$A_{is}$  = Area of the characteristic ion for the internal standard.

$I_s$  = Amount of internal standard injected in nanograms (ng).

$\overline{RRF}$  = Mean relative response factor determined from the initial calibration.

$V_o$  = Volume of water extracted in milliliters (mL).

$V_i$  = Volume of extracted infected in microliters ( $\mu\text{L}$ ).

$V_t$  = Volume of concentrated extract in microliters ( $\mu\text{L}$ ). ( $V_t = 1000\mu\text{L}$ ).

Df = Dilution Factor.

$$GPC = \frac{V_{in}}{V_{out}} = \text{GPC Factor. (If, no GPC is performed, GPC=1).}$$

$V_{in}$  = Volume of extract loaded onto GPC column.

$V_{out}$  = Volume of extract collected after the GPC cleanup.

I certify that this Sample Data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy Sample Data Package and in the electronic data deliverable has been authorized by the laboratory Manager or Manager's designee, as verified by the following signature.

S. Vokshi (Lab Director)  
Signature and Title

08/26/19  
Date of Signature

**jschulze@a4scientific.com**

**From:** "Kramer, Caroline" <ckramer5@fedcsc.com>  
**To:** "Jessica Schulze" <jschulze@a4scientific.com>; "Laxmi Teerupalli" <laxmi@a4scientific.com>; "Rabina Shreshta" <rabina@a4scientific.com>; "Reddy Pakanati" <Pakanati@a4scientific.com>  
**Cc:** "Carroll Harris" <harris.carroll@epa.gov>; "Dan Slizys" <slizys.dan@epa.gov>; "John Kwedar" <kwedar.john@epa.gov>  
**Sent:** Friday, August 21, 2009 10:17 AM  
**Attach:** 20090821085050640.pdf  
**Subject:** Region 03 | Case 38855 | Lab A4 | SDG C2170 | Issue Discrepancies with tags, jars, and/or TR/COC | FINAL

Jessica,

\*\*\*Summary Start\*\*\*

Issue: The TR/COC lists the analysis as VOA and SVOA; however per scheduling the analysis should be TVOA and SVOA. Resolution: In accordance with previous direction from Region 3, the laboratory will note the issue in the Case/SDG Narrative, perform the analyses as indicated on the Scheduling Notification Form, and proceed with the analysis of the samples. The resolution will be applied to all TR/COCs received for this Case that list an incorrect analysis.

\*\*\*Summary End\*\*\*

Please let me know if you have any questions or problems.  
 Thank you,

Caroline L. Kramer  
 Environmental Coordinator - Regions 3 and 9  
 CSC

15000 Conference Center Drive, Chantilly VA 20151  
 Civil Division | (p) 703-818-4248 | (f) 703-818-4602 | [ckramer5@fedcsc.com](mailto:ckramer5@fedcsc.com) | [www.csc.com](http://www.csc.com)

This is a PRIVATE message. If you are not the intended recipient, please delete without copying and kindly advise us by e-mail of the mistake in delivery. NOTE: Regardless of content, this e-mail shall not operate to bind CSC to any order or other contract unless pursuant to explicit written agreement or government initiative expressly permitting the use of e-mail for such purpose.

---

**From:** jschulze@a4scientific.com [mailto:jschulze@a4scientific.com]  
**Sent:** Friday, August 21, 2009 10:55 AM  
**To:** Kramer, Caroline  
**Cc:** RABINA; Laxmi; pakanati; sri  
**Subject:** CASE/SDG 38855/C2170

Caroline,

Lab received water samples on 8/20/2009.

Issue: Per Scheduling analysis is TVOA and SVOA. Per TR/COC analysis requested is VOA and SVOA.

Please let me know if you have any questions.  
 Thanks.

Jessica Schulze  
 A4 Scientific Inc.  
 1544 Sawdust Rd. Suite 505  
 The Woodlands, Texas 77380  
 (281) 292-5277

000000403

8/26/2009

**Appendix E**

TIC Form Is

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2170

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2170  
 Matrix: (SOIL/SED./WATER) WATER Lab Sample ID: 0010736-01  
 Sample wt/vol: 25.0 (g/mL) \_\_\_\_\_ mL Lab File ID: C9646.D  
 Level: (TRACE or LOW/MED) TRACE Date Received: 08/20/2009  
 % Moisture: not dec. \_\_\_\_\_ Date Analyzed: 08/25/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 13.25	12.29	0.65	J
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
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24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

000000015

1J - FORM I VOA-TIC  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2173

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2170  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 0010736-04  
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: C9649.D  
 Level: (TRACE or LOW/MED) TRACE Date Received: 08/20/2009  
 % Moisture: not dec. Date Analyzed: 08/25/2009  
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 6.39	1.70	5.4	J
02	<del>000556-67-2</del>	<del>Cyclotetrasiloxane, octamet.</del>	<del>13.29</del>	<del>1.1</del>	<del>TN</del>
03					
04					
05					
06					
07					
08					
09					
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12					
13					
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17					
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19					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>1</sup>	Total Alkanes	N/A		

<sup>1</sup>EPA-designated Registry Number.

Ju 09/10/09 .

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1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.  
 C2144

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2144  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010735-01  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1903.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 9.1 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/24/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	UNKNOWN 3.41	1.37	150	J
02	<del>UNKNOWN 3.41</del>	<del>1.63</del>	<del>420</del>	<del>J</del>
03	<del>UNKNOWN 3.41</del>	<del>1.70</del>	<del>460</del>	<del>J</del>
04	UNKNOWN 3.41	2.84	90	J
05	UNKNOWN 7.75	7.26	290	J
06	UNKNOWN 7.75	8.38	200	J
07	UNKNOWN 14.16	13.80	76	J
08	UNKNOWN 16.23	17.81	670	J
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
E966796 <sup>2</sup>	Total Alkanes	N/A		

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mb

<sup>2</sup>EPA-designated Registry Number.

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1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2165

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2144  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010735-02  
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: D1900.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 18.0 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/24/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.3 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.41	1.63	380	J
02		<del>UNKNOWN 3.41</del>	<del>1.70</del>	<del>640</del>	<del>J</del>
03		UNKNOWN 3.41	2.67	88	J
04		UNKNOWN 3.41	2.84	110	J
05		UNKNOWN 3.41	2.95	97	J
06		UNKNOWN 3.41	3.26	120	J
07		UNKNOWN 3.41	3.30	95	J
08		UNKNOWN 3.41	3.52	90	JB
09		UNKNOWN 3.41	3.66	83	J
10		UNKNOWN 7.75	7.27	82	J
11		UNKNOWN 7.75	8.38	140	J
12		UNKNOWN 10.01	9.33	94	J
13		UNKNOWN 14.16	12.27	130	J
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

<sup>2</sup>EPA-designated Registry Number.

Su 09101109

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1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2166

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: SDG No.: C2144  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010735-03  
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D1902.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 10.9 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/24/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		<del>UNKNOWN 3.41</del>	<del>1.63</del>	<del>400</del>	<del>J</del>
02		<del>UNKNOWN 3.41</del>	<del>1.70</del>	<del>700</del>	<del>J</del>
03		UNKNOWN 16.23	17.81	380	J
04	077581-11-4	2,9-Dimethyl-2,3,4,5,6,7-he.	18.34	340	JN
05	000559-74-0	Friedelan-3-one	18.97	10000	JN
06		UNKNOWN 16.23	19.54	1400	J
07		UNKNOWN 16.23	19.58	1100	J
08					
09					
10					
11					
12					
13					
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24					
25					
26					
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28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

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<sup>2</sup>EPA-designated Registry Number.

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1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2168

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2144  
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0010735-05  
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D1904.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC  
 % Moisture: 4.1 Decanted: (Y/N) N Date Received: 08/20/2009  
 Concentrated Extract Volume: 500 (uL) Date Extracted: 08/24/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 08/25/2009  
 GPC Cleanup: (Y/N) Y pH: 5.2 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		<del>UNKNOWN 3.41</del>	<del>1.63</del>	<del>360</del>	<del>J</del>
02		<del>UNKNOWN 3.41</del>	<del>1.70</del>	<del>520</del>	<del>J</del>
03		UNKNOWN 7.75	7.27	78	J
04	1000162-57-1	3,1,2-Azaazoniaboratine, 2,.	17.81	300	JN
05	000559-74-0	Friedelan-3-one	18.97	370	JN
06					
07					
08					
09					
10					
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12					
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30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

} m8.

<sup>2</sup>EPA-designated Registry Number.

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1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2170

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2170  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 0010736-01  
 Sample wt/vol: 1000 (g/mL) mL Lab File ID: D1810.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): CONT  
 % Moisture: \_\_\_\_\_ Decanted: (Y/N) \_\_\_\_\_ Date Received: 08/20/2009  
 Concentrated Extract Volume: 1000 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Date Analyzed: 08/21/2009  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_ Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.46	1.41	3.1	J
02		UNKNOWN 3.46	1.66	3.1	J
03		UNKNOWN 3.46	1.76	2.6	J
04		UNKNOWN 3.46	1.96	2.8	J
05		UNKNOWN 3.46	2.40	2.0	J
06					
07					
08					
09					
10					
11					
12					
13					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

<sup>2</sup>EPA-designated Registry Number.

1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2171

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2170  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 0010736-02  
 Sample wt/vol: 1000 (g/mL) mL Lab File ID: D1811.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): CONT  
 % Moisture: \_\_\_\_\_ Decanted: (Y/N) \_\_\_\_\_ Date Received: 08/20/2009  
 Concentrated Extract Volume: 1000 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Date Analyzed: 08/21/2009  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_ Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.46	1.66	3.7	J
02		UNKNOWN 3.46	1.76	4.9	J
03		UNKNOWN 5.13	5.75	2.1	J
04					
05					
06					
07					
08					
09					
10					
11					
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23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

<sup>2</sup>EPA-designated Registry Number.

1K - FORM I SV-TIC  
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

C2172

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036  
 Lab Code: A4 Case No.: 38855 Mod. Ref No.: \_\_\_\_\_ SDG No.: C2170  
 Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: 0010736-03  
 Sample wt/vol: 1000 (g/mL) mL Lab File ID: D1812.D  
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): CONT  
 % Moisture: \_\_\_\_\_ Decanted: (Y/N) \_\_\_\_\_ Date Received: 08/20/2009  
 Concentrated Extract Volume: 1000 (uL) Date Extracted: 08/20/2009  
 Injection Volume: 1.0 (uL) GPC Factor: 1.0 Date Analyzed: 08/21/2009  
 GPC Cleanup: (Y/N) N pH: \_\_\_\_\_ Dilution Factor: 1.0  
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		UNKNOWN 3.46	1.74	2.3	J
02		UNKNOWN 3.46	2.70	2.0	J
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
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21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 <sup>2</sup>	Total Alkanes	N/A		

<sup>2</sup>EPA-designated Registry Number.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
ENVIRONMENTAL SCIENCE CENTER  
701 MAPES ROAD  
FORT MEADE, MARYLAND 20755-5350

DATE : September 15, 2009

SUBJECT: Region III Data QA Review

FROM : Colleen Walling *Colleen C. Walling*  
Region III ESAT RPO (3EA20)

TO : James Hargett  
Regional Project Manager

Attached is the organic data validation report for the White Park site (Case #: 38855, SDG#: MC2139, MC2144, MC2170) completed by the Region III Environmental Services Assistance Team (ESAT) contractor under the direction of Region III EAID.

If you have any questions regarding this review, please call me at (410) 305-2763.

Attachments

cc: Lydia Work (TRIAD)  
Pamela Hayes (WV)

TO File #: 0021

TDF#: 08113

OFFICE OF ANALYTICAL SERVICES AND QUALITY ASSURANCE

Lockheed Martin Enterprise Solutions & Services  
ESAT Region 3  
US EPA Environmental Science Center  
701 Mapes Road Ft. Meade, MD 20755-5350  
Telephone 410-305-3037 Facsimile 410-305-3597

**DATE:** September 04, 2009

**SUBJECT:** Level IM1 Inorganic Data Validation for Case 38855  
SDGs: MC2139, MC2144, and MC2170  
Site: White Park

**FROM:** Shilpa Udani *Su*  
Inorganic Data Reviewer

**Through:** Mahboobeh Mecanic  
Senior Data Review Chemist

**TO:** Colleen Walling  
ESAT Region 3 Project Officer

### OVERVIEW

Case 38805, Sample Delivery Groups (SDGs) MC2139, MC2144, and MC2170, consisted of twenty-five (25) soil and three (3) aqueous samples analyzed by ICP-AES for arsenic (As), barium (Ba), cadmium (Cd), chromium (Cr), lead (Pb), mercury (Hg), selenium (Se) and silver (Ag). All samples were submitted to ASL Laboratory Group (DATAC) for analyses. The sample set included three (3) soil field duplicate pairs and one (1) aqueous field duplicate pair. Samples were analyzed in accordance with Contract Laboratory Program (CLP) Statement of Work (SOW) ILM05.4 through the Routine Analytical Services (RAS) program.

### SUMMARY

Validation of data was performed according to EPA Region III Innovative Approaches for Validation of Inorganic Data, Level IM1, which includes review of all Forms but excludes review of raw data. Areas of concern with respect to data usability are listed below.

Data in this Case have been impacted by outliers present in the laboratory blanks as well as matrix spike analysis. Details for these outliers are discussed under "Minor Problems" and qualified analytical results for all samples are summarized on Data Summary Forms (DSFs).

### **MINOR PROBLEMS**

Continuing Calibration Blanks (CCBs) had reported results greater than the Method Detection Limit (MDL) for Hg in SDGs MC2139 and MC2144. Positive results reported for this analyte in affected samples which are less than five times ( $< 5X$ ) the blank concentrations may be biased high and have been qualified "B" on the DSFs.

Matrix spike recoveries were low ( $< 75\%$  but  $> 30\%$ ) for Se in SDGs MC2139 and MC2144. Low recoveries may be attributed to matrix interferences or analyte lost during the digestion process. Positive results reported for this analyte in affected samples in these SDGs may be biased low. The "L" qualifier for this analyte has been superseded by "J" on the DSFs. Quantitation limits for this analyte in affected samples in these SDGs may be biased low and have been qualified "UL" on the DSFs.

### **NOTES**

Positive results which are less than the Contract Required Quantitation Limits (CRQLs) but greater than MDLs have been qualified "J" on the DSFs.

The cooler chest used to transport samples in this case had interior temperature of  $23.0^{\circ}\text{C}$ , which exceeds the required cooler temperature of  $4.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$ . Due to thermostability of metals, no data were qualified based on the sample cooler chest temperature.

Reported results for field duplicate pair MC2140/MC2141 (SDG MC2139) were within control limits 35% RPD,  $\pm 2XCRQL$  for all analytes except for Cr.

Samples MC2144 and MC2166 (SDG MC2144) are identified as a field duplicate on the Regional Chain-of-Custody (COC) records. The field duplicate pairs for these samples MC2145 and MC2155, respectively, were analyzed in SDG MC2139. Results for these field duplicate pairs were within control limits 35% RPD,  $\pm 2XCRQL$  for all analytes.

Reported results for field duplicate pair MC2171/MC2172 (SDG MC2170) were within the control limits of 20% RPD,  $\pm CRQL$ .

The Chain-of-Custody (COC) record indicated that aqueous samples MC2170, MC2171 and MC2172 were not preserved. However, the laboratory noted that these samples were preserved and had pH of less than two ( $< 2$ ) when received by the laboratory. No action was taken by the reviewer.

Data for Case 38855, SDG MC2139, MC2144, and MC2170, were reviewed in accordance with EPA Region 3 Innovative Approaches (Level IM1) for Validation of Inorganic Data, June 1995.

**ATTACHMENTS**

INFORMATION REGARDING REPORT CONTENT

APPENDIX A	GLOSSARY OF DATA QUALIFIER CODES
APPENDIX B	DATA SUMMARY FORM(S)
APPENDIX C	CHAIN OF CUSTODY RECORD(S)
APPENDIX D	LABORATORY CASE NARRATIVE(S)

DCN: 38855\_ MC2139, MC2144, and MC2170.IM2

**APPENDIX A**

**Glossary of Qualifier Codes**

## **GLOSSARY OF DATA QUALIFIER CODES (INORGANIC)**

### **CODES RELATED TO IDENTIFICATION**

(confidence concerning presence or absence of analytes):

U = Not detected. The associated number indicates approximate sample concentration necessary to be detected.

(NO CODE) = Confirmed identification.

B = Not detected substantially above the level reported in laboratory or field blanks.

R = Unusable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.

N = Tentative identification. Consider present.  
Special methods may be needed to confirm its presence or absence in future sampling efforts.

### **CODES RELATED TO QUANTITATION**

(can be used for both positive results and sample quantitation limits):

J = Analyte Present. Reported value may not be accurate or precise.

K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L = Analyte present. Reported value may be biased low.  
Actual value is expected to be higher.

UJ = Not detected, quantitation limit may be inaccurate or imprecise.

UL = Not detected, quantitation limit is probably higher.

### **OTHER CODES**

Q = No analytical result.

**APPENDIX B**

**Data Summary Forms**

DATA SUMMARY FORM: INORGANIC

Case #: 38855

SDG : MC2139

Number of Soil Samples : 19

Site :

WHITE PARK

Number of Water Samples : 0

Lab. :

DATA C

Sample Number :	MC2139	MC2140	MC2141	MC2145	MC2146						
Sampling Location :	SD1	SD2	SD3	SB2	SB3						
Field QC :		Dup. of MC2141	Dup. of MC2140	Dup. of MC2144							
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg						
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	15:28	14:05	14:20	14:27	11:35						
%Solids :	73.6	81.6	76.0	89.4	91.4						
Dilution Factor :	1.0	1.0	1.0	1.0	1.0						
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ARSENIC	1	9.2		4.4		2.6		2.9		2.9	
BARIUM	20	207		40.3		27.1		34.1		40.4	
CADMIUM	0.5										
CHROMIUM	1	19.6		11.0		7.4		10.0		19.1	
*LEAD	1	28.5		10.4		8.0		7.5		12.2	
MERCURY	0.1	0.18	B					0.028	B	0.032	B
SELENIUM	3.5		UL		UL		UL		UL		UL
SILVER	1										

Sample Number :	MC2147	MC2148	MC2149	MC2150	MC2151						
Sampling Location :	SB4	SB8	SB9	SB10	SB11						
Field QC :											
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg						
Date Sampled :	8/18/2009	8/17/2009	8/17/2009	8/17/2009	8/18/2009						
Time Sampled :	16:34	10:24	11:50	15:55	10:21						
%Solids :	75.8	86.6	86.6	77.7	85.7						
Dilution Factor :	1.0	1.0	1.0	1.0	1.0						
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ARSENIC	1	28.2		1.6		1.1	J	14.7		4.1	
BARIUM	20	145		10.3	J	50.9		144		135	
CADMIUM	0.5										
CHROMIUM	1	13.1		4.4		6.7		19.1		31.1	
*LEAD	1	19.2		2.8		10.2		29.8		54.4	
MERCURY	0.1	0.13	B			0.050	B	0.092	B		
SELENIUM	3.5		UL		UL		UL	1.5	J	0.81	J
SILVER	1										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / (%Solids/ 100)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 38855

SDG : MC2139

Site :

WHITE PARK

Lab. :

DATA C

Sample Number :	MC2155	MC2156	MC2157	MC2158	MC2159						
Sampling Location :	SS1	SS2	SS3	SS4	SS5						
Field QC :	Dup. of MC2166										
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg						
Date Sampled :	8/19/2009	8/18/2009	8/18/2009	8/18/2009	8/17/2009						
Time Sampled :	14:18	14:40	11:28	15:40	12:02						
%Solids :	80.3	82.0	88.1	57.8	74.8						
Dilution Factor :	1.0	1.0	1.0	1.0	1.0						
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ARSENIC	1	4.0		6.4		3.4		384		4.3	
BARIUM	20	40.0		84.4		67.8		468		64.1	
CADMIUM	0.5										
CHROMIUM	1	15.0		18.9		13.5		19.1		26.4	
*LEAD	1	13.2		18.5		13.8		122		12.9	
MERCURY	0.1	0.026	B	0.021	B	0.036	B	0.68		0.047	B
SELENIUM	3.5		UL		UL		UL	1.7	J		UL
SILVER	1										

Sample Number :	MC2160	MC2161	MC2162	MC2163							
Sampling Location :	SS6	SS7	SS8	SS9							
Field QC :											
Matrix :	Soil	Soil	Soil	Soil							
Units :	mg/Kg	mg/Kg	mg/Kg	mg/Kg							
Date Sampled :	8/17/2009	8/17/2009	8/17/2009	8/17/2009							
Time Sampled :	12:16	11:35	10:14	11:21							
%Solids :	76.0	78.7	90.6	81.5							
Dilution Factor :	1.0	1.0	1.0	1.0							
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ARSENIC	1	0.66	J	6.7		0.71	J	3.5			
BARIUM	20	61.0		60.1		12.1	J	222			
CADMIUM	0.5										
CHROMIUM	1	8.9		12.2		3.8		11.2			
*LEAD	1	6.7		43.3		3.3		21.0			
MERCURY	0.1	0.052	B	0.070	B			0.044	B		
SELENIUM	3.5		UL		UL		UL		UL		
SILVER	1										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / (%Solids/ 100)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 38855

SDG : MC2144

Number of Soil Samples : 6

Site :

WHITE PARK

Number of Water Samples : 0

Lab. :

DATA C

Sample Number :	MC2144	MC2164	MC2165	MC2166	MC2167						
Sampling Location :	SB1	SS10	SS11	SS12	SS15						
Field QC :	Dup. of MC2145			Dup. of MC2155							
Matrix :	Soil	Soil	Soil	Soil	Soil						
Units :	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg						
Date Sampled :	8/17/2009	8/18/2009	8/18/2009	8/19/2009	8/17/2009						
Time Sampled :	14:25	10:05	10:05	14:20	10:15						
%Solids :	88.8	84.1	82.0	88.6	83.0						
Dilution Factor :	1.0	1.0	1.0	1.0	1.0						
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
ARSENIC	1	2.7		7.1		8.3		3.1		7.9	
BARIUM	20	41.1		38.1		33.0		36.7		125	
CADMIUM	0.5										
CHROMIUM	1	10.6		17.1		13.9		12.6		13.1	
*LEAD	1	8.1		10.8		9.2		12.2		20.8	
MERCURY	0.1	0.072	B	0.056	B	0.027	B	0.023	B	0.040	B
SELENIUM	3.5		UL		UL		UL		UL	0.77	J
SILVER	1										

Sample Number :	MC2168										
Sampling Location :	SS16										
Field QC :											
Matrix :	Soil										
Units :	mg/Kg										
Date Sampled :	8/17/2009										
Time Sampled :	16:19										
%Solids :	97.0										
Dilution Factor :	1.0										
ANALYTE	CRQL	Result	Flag								
ARSENIC	1	8.8									
BARIUM	20	57.8									
CADMIUM	0.5										
CHROMIUM	1	16.8									
*LEAD	1	21.6									
MERCURY	0.1										
SELENIUM	3.5		UL								
SILVER	1										

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor) / (%Solids/ 100)

Revised 09/99

DATA SUMMARY FORM: INORGANIC

Case #: 38855

SDG : MC2170

Number of Soil Samples : 0

Site :

WHITE PARK

Number of Water Samples : 3

Lab. :

DATA C

Sample Number :	MC2170	MC2171	MC2172								
Sampling Location :	SW1	SW2	SW3								
Field QC :		Dup. of MC2172	Dup. of MC2171								
Matrix :	Water	Water	Water								
Units :	ug/L	ug/L	ug/L								
Date Sampled :	8/17/2009	8/17/2009	8/17/2009								
Time Sampled :	15:54	13:55	14:10								
Dilution Factor :	1.0	1.0	1.0								
ANALYTE	CRQL	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
*ARSENIC	10										
BARIUM	200	57.6	J	83.5	J	82.9	J				
*CADMIUM	5										
*CHROMIUM	10										
*LEAD	10										
MERCURY	0.2										
SELENIUM	35										
SILVER	10										

CRQL = Contract Required Quantitation Limit

\*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

To calculate sample quantitation limits: (CRQL \* Dilution Factor)

Revised 09/99



**USEPA Contract Laboratory Program  
Inorganic Traffic Report & Chain of Custody Record**

Case No: 38855  
DAS No: R

Region: 3		Date Shipped: 8/19/2009	
Project Code: CT4648		Carrier Name: FedEx	
Account Code: 2009 T 03W 302DD2C A3AXSI00		Airbill: 868304289220	
CERCLIS ID: WVYD988766168		Shipped to: ALS Laboratory Group 960 West LeVoy Drive Salt Lake City UT 84123 (801) 266-7700	
Site Name/State: White Park/WV			
Project Leader: Carol Phillips			
Action: Site Inspection Reassessment			
Sampling Co.: Triad Engineering, Inc.			

Chain of Custody Record		
Relinquished By	(Date / Time)	Received By (Date / Time)
<i>[Signature]</i>	8/19/09 1:00	<i>[Signature]</i>

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNOURND	PRESERVATIVE/ Bottles	TAG No./	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC2139	Sediment/ Carol Phillips	M/G	RCRA8 (7)	37 (Not preserved) (1)		SD1	S: 8/17/2009 15:28	C2139	--
MC2140	Sediment/ Carol Phillips	M/G	RCRA8 (7)	314 (Not preserved) (1)		SD2	S: 8/17/2009 14:05	C2140	--
MC2141	Sediment/ Carol Phillips	M/G	RCRA8 (7)	321 (Not preserved) (1)		SD3	S: 8/17/2009 14:20	C2141	Field Duplicate of MC2140
MC2144	Subsurface Soil (>12") Julie Szymanek	M/G	RCRA8 (7)	336 (Not preserved) (1)		SB1	S: 8/17/2009 14:25	C2144	--
MC2145	Subsurface Soil (>12") Julie Szymanek	M/G	RCRA8 (7)	343 (Not preserved) (1)		SB2	S: 8/17/2009 14:27	C2145	Field Duplicate of MC2144
MC2146	Subsurface Soil (>12") Carol Phillips	M/G	RCRA8 (7)	350 (Not preserved) (1)		SB3	S: 8/18/2009 11:35	C2146	--
MC2147	Subsurface Soil (>12") Carol Phillips	H/G	RCRA8 (7)	357 (Not preserved) (1)		SB4	S: 8/18/2009 16:34	C2147	--
MC2148	Subsurface Soil (>12") Julie Szymanek	M/G	RCRA8 (7)	364 (Not preserved) (1)		SB8	S: 8/17/2009 10:24	C2148	--
MC2149	Subsurface Soil (>12") Julie Szymanek	M/G	RCRA8 (7)	371 (Not preserved) (1)		SB9	S: 8/17/2009 11:50	C2149	--
MC2150	Subsurface Soil (>12") Julie Szymanek	M/G	RCRA8 (7)	378 (Not preserved) (1)		SB10	S: 8/17/2009 15:55	C2150	--

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: MC2139, MC2144, MC2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: RCRA8 = RCRA 8 METALS	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

**TR Number: 3-043013577-081909-0001**

PR provides preliminary results. Requests for preliminary results will increase analytical costs.  
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

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**USEPA Contract Laboratory Program  
Inorganic Traffic Report & Chain of Custody Record**

Case No: 38855  
DAS No: R

Region: 3	Date Shipped: 8/19/2009	Carrier Name: FedEx	Station Location: SB11	QC Type: --
Project Code: CT4648	Carrier Name: FedEx	Airbill: 868304289220	Station Location: SS1	QC Type: --
Account Code: 2009 T 03W 302DD2C A3AXSI00	Airbill: 868304289220	Shipped to: ALS Laboratory Group 960 West LeVoy Drive Salt Lake City UT 84123 (801) 268-7700	Station Location: SS2	QC Type: --
CERCLIS ID: WVVD988766168	Shipped to: ALS Laboratory Group 960 West LeVoy Drive Salt Lake City UT 84123 (801) 268-7700		Station Location: SS3	QC Type: --
Spill ID:			Station Location: SS4	QC Type: --
Site Name/State: White Park/WV			Station Location: SS5	QC Type: --
Project Leader: Carol Phillips			Station Location: SS6	QC Type: --
Action: Site Inspection Reassessment			Station Location: SS7	QC Type: --
Sampling Co.: Triad Engineering, Inc.			Station Location: SS8	QC Type: --

Chain of Custody Record		Sampler Signature
Relinquished By	(Date / Time)	Received By
<i>[Signature]</i>	8/19/09 17:00	
3		
4		

INORGANIC SAMPLE NO.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC2151	Subsurface Soil (>12") Carol Phillips	M/G	RCRA8 (7)	385 (Not preserved) (1)	SB11	10:21	C2151	--
MC2155	Soil/Sediment/ Julie Szymanek	M/G	RCRA8 (7)	396 (Not preserved) (1)	SS1	14:18	C2155	--
MC2156	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	398 (Not preserved) (1)	SS2	14:40	C2156	--
MC2157	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3100 (Not preserved) (1)	SS3	11:28	C2157	--
MC2158	Soil/Sediment/ Carol Phillips	H/G	RCRA8 (7)	3102 (Not preserved) (1)	SS4	15:40	C2158	--
MC2159	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3104 (Not preserved) (1)	SS5	12:02	C2159	--
MC2160	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3106 (Not preserved) (1)	SS6	12:16	C2160	--
MC2161	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3108 (Not preserved) (1)	SS7	11:35	C2161	--
MC2162	Soil/Sediment/ Julie Szymanek	M/G	RCRA8 (7)	3110 (Not preserved) (1)	SS8	10:14	C2162	--
MC2163	Soil/Sediment/ Julie Szymanek	M/G	RCRA8 (7)	3112 (Not preserved) (1)	SS9	11:21	C2163	--
MC2164	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3114 (Not preserved) (1)	SS10	10:05	C2164	--

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: MC2139, MC2144, MC2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: RCRA8 = RCRA 8 METALS	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment lead?

TR Number: 3-043013577-081909-0001

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Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

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**USEPA Contract Laboratory Program  
Inorganic Traffic Report & Chain of Custody Record**

Case No: 38855  
DAS No: R

Region: Project Code: Account Code: CERCLIS ID: Spill ID: Site Name/State: Project Leader: Action: Sampling Co:	3 CT4648 2009 T 03W 302DD2C A3AXS100 WVD988766168 White Park/WV Carol Phillips Site Inspection Reassessment Triad Engineering, Inc.	Date Shipped: Carrier Name: Airbill: Shipped to:	8/19/2009 FedEx 868304289220 ALS Laboratory Group 960 West LeVoy Drive Salt Lake City UT 84123 (801) 266-7700	Chain of Custody Record	Sampler Signature: Received By (Date / Time) (Date / Time)			
INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type

INORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME	ORGANIC SAMPLE No.	QC Type
MC2165	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3116 (Not preserved) (1)	SS11	S: 8/18/2009 10:05	C2165	--
MC2166	Soil/Sediment/ Julie Szymanek	M/G	RCRA8 (7)	3118 (Not preserved) (1)	SS12	S: 8/19/2009 14:20	C2166	Field Duplicate of MC2155
MC2167	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3120 (Not preserved) (1)	SS15	S: 8/17/2009 10:15	C2167	--
MC2168	Soil/Sediment/ Carol Phillips	M/G	RCRA8 (7)	3122 (Not preserved) (1)	SS16	S: 8/17/2009 16:19	C2168	--
MC2170	Surface Water/ Carol Phillips	M/G	RCRA8 (7)	3132 (Not preserved), 3133 (Not preserved), 3134 (Not preserved) (3)	SW1	S: 8/17/2009 15:54	C2170	--
MC2171	Surface Water/ Carol Phillips	M/G	RCRA8 (7)	3138 (Not preserved) (1)	SW2	S: 8/17/2009 13:55	C2171	--
MC2172	Surface Water/ Carol Phillips	M/G	RCRA8 (7)	3142 (Not preserved) (1)	SW3	S: 8/17/2009 14:10	C2172	Field Duplicate of MC2171

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: MC2139, MC2144, MC2170	Additional Sampler Signature(s):	Chain of Custody Seal Number:
Analysis Key: RCRA8 = RCRA 8 METALS	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Shipment Iced? _____

**TR Number: 3-043013577-081909-0001**  
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# U.S. EPA Region III Analytical Request Form

975 8-3-09

ASQAB USE ONLY	
RASH# C14648	Analytical TAT
DASH#	7 Days
NSF#	

38855

Date: 7/30/2009		Site Activity: Site Inspection Reassessment	
Site Name: White Park			
City: Morgantown	State: WV	Street Address: Mississippi Street	
Program: Superfund	Acct. #: 2009 T 03W 302DD2C 03RXSI00	Latitude: 39° 36' 41.70"	Longitude: 79° 57' 55.25"
Site ID:	CERCLIS #: WVD988766168	Operable Unit: 0	
Site Specific QA Plan Submitted: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Title: Sampling and Analysis Plan, White Park, Rev. 0 July 2009 Date Approved: July 30, 2009			
EPA Project Leader: James Hargett	Phone#: 215-814-3305	Cell Phone #:	E-mail: hargett.james@epa.gov
Request Preparer: Lydia Work	Phone#: 304-296-2562	Cell Phone #: 304-552-1442	E-mail: lwork@triadeng.com
Site Leader: Pam Hayes, WVDEP	Phone#: 304-926-0499	Cell Phone #:	E-mail: Pamela.D.Hayes@wv.gov
Contractor: Triad Engineering, Inc.			
#Samples 36 + 6 = 42	Matrix: Soil	Parameter: SVOC	Method: SOM01.2
#Samples 36 + 6 = 42	Matrix: Soil ✓	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILMOS.4, ICP-AES
#Samples 17 + 6 = 23	Matrix: Soil	Parameter: VOC, PCB	Method: SOM01.2
#Samples 6	Matrix: Sediment	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILMOS.4, ICP-AES
#Samples 6	Matrix: Sediment	Parameter: VOC, SVOC, PCB	Method: SOM01.2
#Samples 7 + 6 = 13	Matrix: Water, non-potable	Parameter: Trace VOC, SVOC	Method: SOM01.2
#Samples 7 + 6 = 13	Matrix: Water, non-potable	Parameter: Dissolved As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: SOM01.2
#Samples 6	Matrix: Surface Water ✓	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILMOS.4, ICP-AES
#Samples 6	Matrix: Surface Water	Parameter: Trace VOC, SVOC	Method: SOM01.2
Ship Date From: 8/17/2009	Ship Date To: 8/22/2009	Org. Validation Level M2	Inorg. Validation Level IM1
Unvalidated Data Requested: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, TAT Needed: <input type="checkbox"/> 24hrs <input type="checkbox"/> 48hrs <input type="checkbox"/> 72hrs <input type="checkbox"/> 7days <input type="checkbox"/> Other (Specify)			
Validated Data Package Due: <input type="checkbox"/> 42 days <input type="checkbox"/> 30 days <input type="checkbox"/> 21days <input checked="" type="checkbox"/> 14 days <input type="checkbox"/> Other (Specify) 7/7			
Electronic Data Deliverables Required: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (EDDs will be provided in Region 3 EDD Format)			
Special Instructions:			

# U.S. EPA Region III Analytical Request Form

975 8-3-09

ASQAB USE ONLY
RASH# CT4648 Analytical TAT
DASH#
NSRF#
7 Days

38855

Date: 7/30/2009		Site Activity: Site Inspection Reassessment	
Site Name: White Park			
City: Morgantown	State: WV	Street Address: Mississippi Street	
Program: Superfund	Acct. #: 2009 T 03W 302DD2C 03RXSI00	Latitude: 39° 36' 41.70"	Longitude: 79° 57' 55.25"
Site ID:	Spill ID:	CERCLIS #: WVD988766168	Operable Unit: 0
Site Specific QA Plan Submitted: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Title: Sampling and Analysis Plan, White Park, Rev. 0 July 2009 Date Approved: July 30, 2009			
EPA Project Leader: James Hargett	Phone#: 215-814-3305	Cell Phone #:	E-mail: hargett.james@epa.gov
Request Preparer: Lydia Work	Phone#: 304-296-2562	Cell Phone #: 304-552-1442	E-mail: lwork@triadeng.com
Site Leader: Pam Hayes, WVDEP	Phone#: 304-926-0499	Cell Phone #:	E-mail: Pamela.D.Hayes@wv.gov
Contractor: Triad Engineering, Inc.			
#Samples 36 + 6 = 42	Matrix: Soil	Parameter: SVOC	Method: SOM01.2
#Samples 36 + 6 = 42	Matrix: Soil ✓	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 17 + 6 = 23	Matrix: Soil	Parameter: VOC, PCB	Method: SOM01.2
#Samples 6	Matrix: Sediment	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Sediment	Parameter: VOC, SVOC, PCB	Method: SOM01.2
#Samples 7 + 6 = 13	Matrix: Water, non-potable	Parameter: Trace VOC, SVOC	Method: SOM01.2
#Samples 7 + 6 = 13	Matrix: Water, non-potable	Parameter: Dissolved As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Surface Water ✓	Parameter: As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Method: ILM05.4, ICP-AES
#Samples 6	Matrix: Surface Water	Parameter: Trace VOC, SVOC	Method: SOM01.2
Ship Date From: 8/17/2009	Ship Date To: 8/22/2009	Org. Validation Level M2	Inorg. Validation Level IM1
Unvalidated Data Requested: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, TAT Needed: <input type="checkbox"/> 24hrs <input type="checkbox"/> 48hrs <input type="checkbox"/> 72hrs <input type="checkbox"/> 7days <input type="checkbox"/> Other (Specify)			
Validated Data Package Due: <input type="checkbox"/> 42 days <input type="checkbox"/> 30 days <input type="checkbox"/> 21days <input checked="" type="checkbox"/> 14 days <input type="checkbox"/> Other (Specify) 7/7			
Electronic Data Deliverables Required: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (EDDs will be provided in Region 3 EDD Format)			
Special Instructions:			

**APPENDIX D**

**Laboratory Case Narrative**

**SDG MC2139**

USEPA - CLP  
COVER PAGE

Lab Name: ALS DATACHEM

Contract: EPW08066

Lab Code: DATAC Case No.: 38855 NRAS No.: \_\_\_\_\_ SDG No.: MC2139

SOW No.: ILM05.4

<u>EPA Sample No.</u>	<u>Lab Sample ID</u>
<u>MC2139</u>	<u>9232044001</u>
<u>MC2139D</u>	<u>9232044003</u>
<u>MC2139S</u>	<u>9232044002</u>
<u>MC2140</u>	<u>9232044004</u>
<u>MC2141</u>	<u>9232044005</u>
<u>MC2145</u>	<u>9232044006</u>
<u>MC2146</u>	<u>9232044007</u>
<u>MC2147</u>	<u>9232044008</u>
<u>MC2148</u>	<u>9232044009</u>
<u>MC2149</u>	<u>9232044010</u>
<u>MC2150</u>	<u>9232044011</u>
<u>MC2151</u>	<u>9232044012</u>
<u>MC2155</u>	<u>9232044013</u>
<u>MC2156</u>	<u>9232044014</u>
<u>MC2157</u>	<u>9232044015</u>
<u>MC2158</u>	<u>9232044016</u>
<u>MC2159</u>	<u>9232044017</u>
<u>MC2160</u>	<u>9232044018</u>
<u>MC2161</u>	<u>9232044019</u>
<u>MC2162</u>	<u>9232044020</u>
<u>MC2163</u>	<u>9232044021</u>

		<u>ICP-AES</u>	<u>ICP-MS</u>
Were ICP-AES and ICP-MS Interelement corrections applied?	(Yes/No)	<u>YES</u>	<u>NO</u>
Were ICP-AES and ICP-MS background corrections applied?	(Yes/No)	<u>YES</u>	<u>NO</u>
If yes - were raw data generated before application of background corrections?	(Yes/No)	<u>NO</u>	<u>NO</u>

Comments:

---

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette (or via an alternate means of electronic transmission, if approved in advance by USEPA) has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Joanna C. Sanchez Name: Joanna Sanchez

Date: 08/26/2009 Title: Chemist

**Olson, Roxanne**

**From:** Kramer, Caroline [ckramer5@fedcsc.com]  
**Sent:** Friday, August 21, 2009 1:30 PM  
**To:** Olson, Roxanne; Edwards, Meredith D.  
**Cc:** Carroll Harris; Dan Slizys; John Kwedar  
**Subject:** Region 03 | Case 38855 | Lab DATAC | Issue Multiple | FINAL  
**Attachments:** Case 38855.pdf

Roxy,

\*\*\*Summary Start\*\*\*

-Missing temperature blank-

Issue 1: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees.

Resolution 1: Per Region 3, the laboratory will note the elevated cooler temperature in the Case/SDG Narrative and proceed with the analysis of the samples.

-Discrepancies with tags, jars, and/or TR/COC-

Issue 2: The laboratory was scheduled to receive filtered and non-filtered water samples. The laboratory received 3 water samples and the TR does not specify if they are TM or DM. The laboratory assumes that they are TM, is this correct?

Resolution 2: Per Region 3, the laboratory will note the issue in the Case/SDG Narrative and proceed with the TM analysis of the samples.

Issue 3: The TR states that the 3 water samples received (MC2170, MC2171, MC2172) are not preserved but they were. The laboratory double checked them and they all have a pH of 2.

Resolution 3: Per Region 3, the laboratory will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

\*\*\*Summary End\*\*\*

Please let me know if you have any questions or problems.

Thank you,

Caroline L. Kramer  
 Environmental Coordinator - Regions 3 and 9  
 CSC

15000 Conference Center Drive, Chantilly VA 20151  
 Civil Division | (p) 703-818-4248 | (f) 703-818-4602 | [ckramer5@fedcsc.com](mailto:ckramer5@fedcsc.com) | [www.csc.com](http://www.csc.com)

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--8/21/2009 03:25pm Phone conversation between Caroline Kramer, SMO, and Roxy Olson, DATAC. Roxy confirmed that there were no designations or markings that would indicate that the water samples were DM on the bottles and/or tags.

--8/21/2009 03:15pm Phone conversation between Caroline Kramer, SMO, and Dan Slizys, Region 3. Dan provided the following resolutions:

1. The laboratory will note the elevated cooler temperature in the Case/SDG Narrative and proceed with the analysis of the samples.
2. SMO will confirm with the laboratory that there was nothing marked on the tags/bottles that would indicate that the samples might be dissolved. If not, then the laboratory will note the issue in the Case/SDG Narrative and proceed with the TM analysis of the samples.
3. The laboratory will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

**From:** Kramer, Caroline  
**Sent:** Thursday, August 20, 2009 3:24 PM

8/21/2009

: 00003

**To:** Carroll Harris; Dan Slizys; John Kwedar  
**Subject:** NEW ISSUE | Case 38855 | Lab DATAC | Issue Multiple

Dan/Carroll,  
 DATAC is reporting the following issues regarding Case 38855. Please advise.

-Missing temperature blank-

Issue 1: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees.

-Discrepancies with tags, jars, and/or TR/COC-

Issue 2: The laboratory was scheduled to receive filtered and non-filtered water samples. The laboratory received 3 water samples and the TR does not specify if they are TM or DM. The laboratory assumes that they are TM, is this correct?

Issue 3: The TR states that the 3 water samples received (MC2170, MC2171, MC2172) are not preserved but they were. The laboratory double checked them and they all have a pH of 2.

Please let me know if you have any questions or problems.  
 Thank you,

Caroline L. Kramer  
 Environmental Coordinator - Regions 3 and 9  
 CSC

15000 Conference Center Drive, Chantilly VA 20151  
 Civil Division | (p) 703-818-4248 | (f) 703-818-4602 | [ckramer5@fedcsc.com](mailto:ckramer5@fedcsc.com) | [www.csc.com](http://www.csc.com)

-----  
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 -----

-----  
**From:** Olson, Roxanne [mailto:[olsonr@datachem.com](mailto:olsonr@datachem.com)]  
**Sent:** Thursday, August 20, 2009 1:22 PM  
**To:** Kramer, Caroline  
**Subject:** FW: Inorganic Case 38855 Region 3

Caroline:

Please see the issues outlined below for samples we received today for case 38855. Resolutions please. Thanks.

Roxy

-----  
**From:** Edwards, Meredith D.  
**Sent:** Thursday, August 20, 2009 11:16 AM  
**To:** ALS SLC EPA  
**Subject:** Inorganic Case 38855 Region 3

Here are the issues with this case

1. There was no ice and no temp blank. The temp was 23 degrees.
2. We are scheduled for filtered and unfiltered samples, I am assuming that these are unfiltered but I just want to double check.
3. The TR states that the 3 water samples that I received MC2170;MC2171;MC2172 are not preserved but they were. I double checked them and they were at a 2 for ph.

8/21/2009

: 00004

I have attached the TR's.

Thanks  
Mere



Environmental Division

## SDG NARRATIVE

**Case #:** 38855  
**SDG#:** MC2139  
**Contract #:** EP-W-08-066  
**DCL Set ID#:** 9232044  
**August 26, 2009**

### General Information

The nineteen samples in this SDG were analyzed by methodologies contained in ILM05.4. All concentration, analytical, and method qualifiers are defined in the SOW.

### Holding Times

All samples were prepared and analyzed within method required holding times.

### Initial and Continuing Calibration

All initial and continuing calibration verification and blank analyses were performed within the designated frequency and recoveries of the verifications and concentrations of the blanks met method acceptance criteria.

### Interference Check Sample Analysis

Results for the interference check samples met method acceptance criteria.

### Preparation Blanks

The absolute values of all analyte concentrations in the preparation blanks were lower than the Contract Required Quantitation Limits.

### Laboratory Control Sample Analysis

Results for the analysis of the LCS met method acceptance criteria.

### Matrix Spike Analysis

All matrix spike recoveries were within the limits of 75-125% with the exception of selenium.

### Matrix Duplicate Analysis

All matrix duplicate results met method criteria.



## Serial Dilution

ICP-AES Serial Dilution results met method acceptance criteria.

## Miscellaneous Comments

All calibration data is linear, please see raw data.

Cooler temps were at 23°C at time of receipt.

Issue: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees. Per Region 3, the laboratory will proceed with analysis.

## Example Equations

$$\text{Method HS1: } C \times DF \times \frac{V_f}{W_i} \div S = \text{Concentration}(\mu\text{g/g}) = \text{Concentration}(\text{mg/Kg})$$

$$\text{Method CS1: } C \times DF \times \frac{V_f}{W_i} \div S = \text{Concentration}(\mu\text{g/g}) = \text{Concentration}(\text{mg/Kg})$$

C = Instrument value in  $\mu\text{g/L}$  (The average of all replicate integrations).

Vf = Final digestion volume (L)

Wi = Initial digestion Weight (g)

DF = Dilution Factor

S = % Solids/100

**SAMPLE LOG-IN SHEET**

Lab Name	DataChem Laboratories, Inc.	Page	1 of 2
Received By (Print Name)	Meredith Edwards	Log-In Date	8/20/09
Received By (Signature)	<i>Meredith Edwards</i>		
Case Number	38855	Sample Delivery Group No.	MC2139
		NRAS Number	N/A

Remarks:	EPA Sample #	Aqueous Sample pH	Corresponding		Remarks: Condition of Sample Shipment, etc.
			Sample Tag #	Assigned Lab #	
1. Custody Seal (s) Present/Absent* Intact/Broken*	MC2139	N/A	37	9232044 01, 02, 03	Metals/Hg Soil
	40		314	014	
2. Custody Seal Nos.	41		321	015	
	44		330		
3. Traffic Reports/ Chain of Custody Records or Packing Lists Present/Absent*	45		343	016	
4. Airbill Airbill/Sticker Present/Absent*	46		350	017	
	47		357	018	
5. Airbill No.	48		364	019	
	49		371	010	
6. Sample Tags Present/Absent*	50		378	011	
Sample Tag Numbers Listed/Not Listed on Chain-of-Custody	51		385	012	
7. Sample Condition Intact/Broken*/Leaking*	55		396	013	
8. Cooler Temperature Indicator Bottle Present/Absent*	56		398	014	
9. Cooler Temperature	57		3100	015	
10. Does information on custody records, traffic reports, and sample tags agree? Yes/No*	58		3112	016	
11. Date Received at lab	59		3104	017	
12. Time Received	60		3106	018	
Sample Transfer	61		3108	019	
Fraction Metals/Hg	62		3110	020	
Area # P-201	63		3112	021	
By N/A	64		3114		
On 8/20/09	65		3116		

* Contact SMO and attach record of resolution Reviewed By <i>Joanne Olson</i> Date: 8/20/09	Logbook No. NOT APPLICABLE Logbook Page No. NOT APPLICABLE
---	---



From Page No. X Insert of % solids/Moisture

Data of set 9232044 - 9232045

**% Moistures & Solids**

Analyst: IJO  
Queue: EGRV  
Batch: 2265  
Instrument: GRAV03

Start Time 8/25/2009 12:08 Start Oven Temp: 105°  
Finish Time 8/26/2009 6:00 End Oven Temp: 105°

Workorder	Dish#	Lab Sample ID	Dish (g)	Dish + Soil (g)	Soil Weight (g)	Dish + DS (g)	Dry Soil (g)	% Solids	% Moistures
MC2139 → 9232044	1	9232044001	1.2870	7.4469	6.1599	5.8184	4.5314	73.5629%	26.4371%
9232044	2	9232044003	1.2956	7.4293	6.1337	5.7821	4.4865	73.1451%	26.8549%
NC2140 → 9232044	3	9232044004	1.2901	7.7084	6.4183	6.5298	5.2397	81.6369%	18.3631%
NC2141 → 9232044	4	9232044005	1.2927	8.9524	7.6597	7.1129	5.8202	75.9847%	24.0153%
MC2145 → 9232044	5	9232044006	1.2891	8.2295	6.9404	7.4928	6.2037	89.3853%	10.6147%
MC2146 → 9232044	6	9232044007	1.2883	7.6215	6.3332	7.0748	5.7865	91.3677%	8.6323%
MC2147 → 9232044	7	9232044008	1.2878	7.4837	6.1959	5.9830	4.6952	75.7791%	24.2209%
MC2148 → 9232044	8	9232044009	1.2812	8.3811	7.0999	7.4301	6.1489	86.6054%	13.3946%
MC2149 → 9232044	9	9232044010	1.2813	7.5542	6.2729	6.7110	5.4297	86.5581%	13.4419%
MC2150 → 9232044	10	9232044011	1.2857	8.8458	7.5601	7.1623	5.8766	77.7318%	22.2682%
MC2151 → 9232044	11	9232044012	1.3862	9.3214	7.9352	8.1838	6.7976	85.6639%	14.3361%
MC2155 → 9232044	12	9232044013	1.2821	8.7449	7.4628	7.2716	5.9895	80.2581%	19.7419%
MC2156 → 9232044	13	9232044014	1.2806	7.3762	6.0956	6.2813	5.0007	82.0379%	17.9621%
MC2157 → 9232044	14	9232044015	1.2858	9.6954	8.4096	8.6951	7.4093	88.1053%	11.8947%
MC2158 → 9232044	15	9232044016	1.2875	6.9417	5.6542	4.5545	3.2670	57.7801%	42.2199%
MC2159 → 9232044	16	9232044017	1.2872	9.5941	8.3069	7.4990	6.2118	74.7788%	25.2212%
MC2160 → 9232044	17	9232044018	1.2857	7.1632	5.8775	5.7501	4.4644	75.9575%	24.0425%
MC2161 → 9232044	18	9232044019	1.2736	7.6347	6.3611	6.2802	5.0066	78.7065%	21.2935%
MC2162 → 9232044	19	9232044020	1.2784	8.6540	7.3756	7.9577	6.6793	90.5594%	9.4406%
MC2163 → 9232044	20	9232044021	1.3023	8.9857	7.6834	7.5639	6.2616	81.4952%	18.5048%

IJO 8/26/09

IJO 8/26/09

**% Moistures & Solids**

Analyst: IJO  
Queue: EGRV  
Batch: 2266  
Instrument: GRAV03

Start Time 8/25/2009 12:10 Start Oven Temp: 105°  
Finish Time 8/26/2009 6:00 End Oven Temp: 105°

Workorder	Dish#	Lab Sample ID	Dish (g)	Dish + Soil (g)	Soil Weight (g)	Dish + DS (g)	Dry Soil (g)	% Solids	% Moistures
MC2144 9232045	1	9232045001	1.2892	8.6859	7.3967	7.8609	6.5717	88.8464%	11.1536%
MC2147 up 9232045	2	9232045003	1.2929	8.6818	7.3889	7.8614	6.5685	88.8969%	11.1031%
9232045	3	9232045004	1.2957	8.8182	7.5225	7.6246	6.3289	84.1329%	15.8671%
9232045	4	9232045005	1.2806	8.7175	7.4369	7.3759	6.0953	81.9602%	18.0398%
9232045	5	9232045006	1.2847	8.5812	7.2965	7.7467	6.4620	88.5630%	11.4370%
9232045	6	9232045007	1.2895	7.2173	5.9278	6.2112	4.9217	83.0274%	16.9726%
MC2168 9232045	7	9232045008	1.2933	9.7010	8.4077	9.4489	8.1556	97.0016%	2.9984%

IJO 8/26/09

To Page No. X

Witnessed & Understood by me,

*Christopher R. Housler*

Date

8/25/2009

Invented by

NA

Date

8/26/09

Recorded by

*Jane O'Connell*

**SDG MC2144**





Environmental Division

## **SDG NARRATIVE**

**Case #:** 38855

**SDG#:** MC2144

**Contract #:** EP-W-08-066

**DCL Set ID#:** 9232045

**August 26, 2009**

### **General Information**

The six samples in this SDG were analyzed by methodologies contained in ILM05.4. All concentration, analytical, and method qualifiers are defined in the SOW.

### **Holding Times**

All samples were prepared and analyzed within method required holding times.

### **Initial and Continuing Calibration**

All initial and continuing calibration verification and blank analyses were performed within the designated frequency and recoveries of the verifications and concentrations of the blanks met method acceptance criteria.

### **Interference Check Sample Analysis**

Results for the interference check samples met method acceptance criteria.

### **Preparation Blanks**

The absolute values of all analyte concentrations in the preparation blanks were lower than the Contract Required Quantitation Limits.

### **Laboratory Control Sample Analysis**

Results for the analysis of the LCS met method acceptance criteria.

### **Matrix Spike Analysis**

All matrix spike recoveries were within the limits of 75-125% with the exception of selenium.

### **Matrix Duplicate Analysis**

All matrix duplicate results met method criteria.



### Serial Dilution

ICP-AES Serial Dilution results met method acceptance criteria.

### Miscellaneous Comments

All calibration data is linear, please see raw data.  
Cooler temps were at 23°C at time of receipt.

Issue: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees. Per Region 3, the laboratory will proceed with analysis.

### Example Equations

$$\text{Method HS1: } C \times DF \times \frac{V_f}{W_i} \div S = \text{Concentration}(\mu\text{g/g}) = \text{Concentration}(\text{mg/Kg})$$

$$\text{Method CS1: } C \times DF \times \frac{V_f}{W_i} \div S = \text{Concentration}(\mu\text{g/g}) = \text{Concentration}(\text{mg/Kg})$$

C = Instrument value in  $\mu\text{g/L}$  (The average of all replicate integrations).

Vf = Final digestion volume (L)

Wi = Initial digestion Weight (g)

DF = Dilution Factor

S = % Solids/100

**Olson, Roxanne**

---

**From:** Kramer, Caroline [ckramer5@fedcsc.com]  
**Sent:** Friday, August 21, 2009 1:30 PM  
**To:** Olson, Roxanne; Edwards, Meredith D.  
**Cc:** Carroll Harris; Dan Slizys; John Kwedar  
**Subject:** Region 03 | Case 38855 | Lab DATAC | Issue Multiple | FINAL  
**Attachments:** Case 38855.pdf

Roxy,

\*\*\*Summary Start\*\*\*

-Missing temperature blank-

Issue 1: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees.

Resolution 1: Per Region 3, the laboratory will note the elevated cooler temperature in the Case/SDG Narrative and proceed with the analysis of the samples.

-Discrepancies with tags, jars, and/or TR/COC-

Issue 2: The laboratory was scheduled to receive filtered and non-filtered water samples. The laboratory received 3 water samples and the TR does not specify if they are TM or DM. The laboratory assumes that they are TM, is this correct?

Resolution 2: Per Region 3, the laboratory will note the issue in the Case/SDG Narrative and proceed with the TM analysis of the samples.

Issue 3: The TR states that the 3 water samples received (MC2170, MC2171, MC2172) are not preserved but they were. The laboratory double checked them and they all have a pH of 2.

Resolution 3: Per Region 3, the laboratory will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

\*\*\*Summary End\*\*\*

Please let me know if you have any questions or problems.

Thank you,

Caroline L. Kramer  
 Environmental Coordinator - Regions 3 and 9  
 CSC

15000 Conference Center Drive, Chantilly VA 20151  
 Civil Division | (p) 703-818-4248 | (f) 703-818-4602 | [ckramer5@fedcsc.com](mailto:ckramer5@fedcsc.com) | [www.csc.com](http://www.csc.com)

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--8/21/2009 03:25pm Phone conversation between Caroline Kramer, SMO, and Roxy Olson, DATAC. Roxy confirmed that there were no designations or markings that would indicate that the water samples were DM on the bottles and/or tags.

--8/21/2009 03:15pm Phone conversation between Caroline Kramer, SMO, and Dan Slizys, Region 3. Dan provided the following resolutions:

1. The laboratory will note the elevated cooler temperature in the Case/SDG Narrative and proceed with the analysis of the samples.
2. SMO will confirm with the laboratory that there was nothing marked on the tags/bottles that would indicate that the samples might be dissolved. If not, then the laboratory will note the issue in the Case/SDG Narrative and proceed with the TM analysis of the samples.
3. The laboratory will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

**From:** Kramer, Caroline  
**Sent:** Thursday, August 20, 2009 3:24 PM

8/21/2009

: 00003

**To:** Carroll Harris; Dan Slizys; John Kwedar  
**Subject:** NEW ISSUE | Case 38855 | Lab DATAC | Issue Multiple

Dan/Carroll,  
 DATAC is reporting the following issues regarding Case 38855. Please advise.

-Missing temperature blank-

Issue 1: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees.

-Discrepancies with tags, jars, and/or TR/COC-

Issue 2: The laboratory was scheduled to received filtered and non-filtered water samples. The laboratory received 3 water samples and the TR does not specify if they are TM or DM. The laboratory assumes that they are TM, is this correct?

Issue 3: The TR states that the 3 water samples received (MC2170, MC2171, MC2172) are not preserved but they were. The laboratory double checked them and they all have a pH of 2.

Please let me know if you have any questions or problems.  
 Thank you,

Caroline L. Kramer  
 Environmental Coordinator - Regions 3 and 9  
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 -----

---

**From:** Olson, Roxanne [mailto:[olsonr@datachem.com](mailto:olsonr@datachem.com)]  
**Sent:** Thursday, August 20, 2009 1:22 PM  
**To:** Kramer, Caroline  
**Subject:** FW: Inorganic Case 38855 Region 3

Caroline:

Please see the issues outlined below for samples we received today for case 38855. Resolutions please. Thanks.

Roxy

---

**From:** Edwards, Meredith D.  
**Sent:** Thursday, August 20, 2009 11:16 AM  
**To:** ALS SLC EPA  
**Subject:** Inorganic Case 38855 Region 3

Here are the issues with this case

1. There was no ice and no temp blank. The temp was 23 degrees.
2. We are scheduled for filtered and unfiltered samples, I am assuming that these are unfiltered but I just want to double check.
3. The TR states that the 3 water samples that I received MC2170;MC2171;MC2172 are not preserved but they were. I double checked them and they were at a 2 for ph.

8/21/2009

: 00004

I have attached the TR's.

Thanks  
Mere

From Page No. X Insert of % Solids/Moisture

Data of set  
9232044 - 9232045

**% Moistures & Solids**

Analyst: IJO  
Queue: EGRV  
Batch: 2265  
Instrument: GRAV03

Start Time: 8/25/2009 12:08      Start Oven Temp: 105°  
Finish Time: 8/26/2009 6:00      End Oven Temp: 105°

Workorder	Dish#	Lab Sample ID	Dish (g)	Dish + Soil (g)	Soil Weight (g)	Dish + DS (g)	Dry Soil (g)	% Solids	% Moistures
9232044	1	9232044001	1.2870	7.4469	6.1599	5.8184	4.5314	73.5629%	26.4371%
9232044	2	9232044003	1.2956	7.4293	6.1337	5.7821	4.4865	73.1451%	26.8549%
9232044	3	9232044004	1.2901	7.7084	6.4183	6.5298	5.2397	81.6369%	18.3631%
9232044	4	9232044005	1.2927	8.9524	7.6597	7.1129	5.8202	75.9847%	24.0153%
9232044	5	9232044006	1.2891	8.2295	6.9404	7.4928	6.2037	89.3853%	10.6147%
9232044	6	9232044007	1.2883	7.6215	6.3332	7.0748	5.7865	91.3677%	8.6323%
9232044	7	9232044008	1.2878	7.4837	6.1959	5.9830	4.6952	75.7791%	24.2209%
9232044	8	9232044009	1.2812	8.3811	7.0999	7.4301	6.1489	86.6054%	13.3946%
9232044	9	9232044010	1.2813	7.5542	6.2729	6.7110	5.4297	86.5581%	13.4419%
9232044	10	9232044011	1.2857	8.8458	7.5601	7.1623	5.8766	77.7318%	22.2682%
9232044	11	9232044012	1.3862	9.3214	7.9352	8.1838	6.7976	85.6639%	14.3361%
9232044	12	9232044013	1.2821	8.7449	7.4628	7.2716	5.9895	80.2581%	19.7419%
9232044	13	9232044014	1.2806	7.3762	6.0956	6.2813	5.0007	82.0379%	17.9621%
9232044	14	9232044015	1.2858	9.6954	8.4096	8.6951	7.4093	88.1053%	11.8947%
9232044	15	9232044016	1.2875	6.9417	5.6542	4.5545	3.2670	57.7801%	42.2199%
9232044	16	9232044017	1.2872	9.5941	8.3069	7.4990	6.2118	74.7788%	25.2212%
9232044	17	9232044018	1.2857	7.1632	5.8775	5.7501	4.4644	75.9575%	24.0425%
9232044	18	9232044019	1.2736	7.6347	6.3611	6.2802	5.0066	78.7065%	21.2935%
9232044	19	9232044020	1.2784	8.6540	7.3756	7.9577	6.6793	90.5594%	9.4406%
9232044	20	9232044021	1.3023	8.9857	7.6834	7.5639	6.2616	81.4952%	18.5048%

IJO 8/26/09

**% Moistures & Solids**

IJO 8/26/09

Analyst: IJO  
Queue: EGRV  
Batch: 2266  
Instrument: GRAV03

Start Time: 8/25/2009 12:10      Start Oven Temp: 105°  
Finish Time: 8/26/2009 6:00      End Oven Temp: 105°

112892

Workorder	Dish#	Lab Sample ID	Dish (g)	Dish + Soil (g)	Soil Weight (g)	Dish + DS (g)	Dry Soil (g)	% Solids	% Moistures
MC 2164 → 9232045	1	9232045001	1.2892	8.6859	7.3967	7.8609	6.5717	88.8464%	11.1536%
9232045	2	9232045003	1.2929	8.6818	7.3889	7.8614	6.5685	88.8969%	11.1031%
MC 2164 → 9232045	3	9232045004	1.2957	8.8182	7.5225	7.6246	6.3289	84.1329%	15.8671%
C 2165 → 9232045	4	9232045005	1.2806	8.7175	7.4369	7.3759	6.0953	81.9602%	18.0398%
C 2166 → 9232045	5	9232045006	1.2847	8.5812	7.2965	7.7467	6.4620	88.5630%	11.4370%
IC 2167 → 9232045	6	9232045007	1.2895	7.2173	5.9278	6.2112	4.9217	83.0274%	16.9726%
X 2168 → 9232045	7	9232045008	1.2933	9.7010	8.4077	9.4489	8.1556	97.0016%	2.9984%

IJO 8/26/09

To Page No. X

Witnessed & Understood by me,

*Christopher R. Hansen*

Date

8/26/2009

Invented by

NA

Date

8/26/09

Recorded by

*Jane J. Davalle*

**SDG MC2170**





Environmental Division

## SDG NARRATIVE

**Case #:** 38855  
**SDG#:** MC2170  
**Contract #:** EP-W-08-066  
**DCL Set ID#:** 9232046  
**August 26, 2009**

### General Information

The three samples in this SDG were analyzed by methodologies contained in ILM05.4. All concentration, analytical, and method qualifiers are defined in the SOW.

### Holding Times

All samples were prepared and analyzed within method required holding times.

### Initial and Continuing Calibration

All initial and continuing calibration verification and blank analyses were performed within the designated frequency and recoveries of the verifications and concentrations of the blanks met method acceptance criteria.

### Interference Check Sample Analysis

Results for the interference check samples met method acceptance criteria.

### Preparation Blanks

The absolute values of all analyte concentrations in the preparation blanks were lower than the Contract Required Quantitation Limits.

### Laboratory Control Sample Analysis

Results for the analysis of the LCS met method acceptance criteria.

### Matrix Spike Analysis

All matrix spike recoveries were within the limits of 75-125%.

### Matrix Duplicate Analysis

All matrix duplicate results met method criteria.



## Serial Dilution

ICP-AES Serial Dilution results met method acceptance criteria.

## Miscellaneous Comments

All calibration data is linear, please see raw data.  
Cooler temps were at 23°C at time of receipt.

Issue 1: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees. Per Region 3, the laboratory will proceed with analysis.

Issue 2: The laboratory was scheduled to receive TM and DM water samples. The laboratory received three water samples and the TR does not specify if they are TM or DM. Per Region 3, the laboratory will proceed with TM analysis of the samples.

Issue 3: The TR states that the three water samples received are not preserved but the laboratory checked them and they all had a pH of 2. Per Region 3, the laboratory will proceed with analysis.

## Example Equations

Method HW1:  $C \times \frac{V_f}{V_i} \times DF = \text{Concentration}(\mu\text{g/L})$

Method CW1:  $C \times DF = \text{Concentration}(\mu\text{g/L})$

Where,

C = Instrument value in  $\mu\text{g/L}$  (The average of all replicate integrations).

Vf = Final digestion volume (mL)

Vi = Initial digestion volume (mL)

DF = Dilution Factor

**Olson, Roxanne**

**From:** Kramer, Caroline [ckramer5@fedcsc.com]  
**Sent:** Friday, August 21, 2009 1:30 PM  
**To:** Olson, Roxanne; Edwards, Meredith D.  
**Cc:** Carroll Harris; Dan Slizys; John Kwedar  
**Subject:** Region 03 | Case 38855 | Lab DATAC | Issue Multiple | FINAL  
**Attachments:** Case 38855.pdf

Roxy,

\*\*\*Summary Start\*\*\*

-Missing temperature blank-

Issue 1: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees.

Resolution 1: Per Region 3, the laboratory will note the elevated cooler temperature in the Case/SDG Narrative and proceed with the analysis of the samples.

-Discrepancies with tags, jars, and/or TR/COC-

Issue 2: The laboratory was scheduled to receive filtered and non-filtered water samples. The laboratory received 3 water samples and the TR does not specify if they are TM or DM. The laboratory assumes that they are TM, is this correct?

Resolution 2: Per Region 3, the laboratory will note the issue in the Case/SDG Narrative and proceed with the TM analysis of the samples.

Issue 3: The TR states that the 3 water samples received (MC2170, MC2171, MC2172) are not preserved but they were. The laboratory double checked them and they all have a pH of 2.

Resolution 3: Per Region 3, the laboratory will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

\*\*\*Summary End\*\*\*

Please let me know if you have any questions or problems.

Thank you,

Caroline L. Kramer  
 Environmental Coordinator - Regions 3 and 9  
 CSC

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--8/21/2009 03:25pm Phone conversation between Caroline Kramer, SMO, and Roxy Olson, DATAC.  
 Roxy confirmed that there were no designations or markings that would indicate that the water samples were DM on the bottles and/or tags.

--8/21/2009 03:15pm Phone conversation between Caroline Kramer, SMO, and Dan Slizys, Region 3.  
 Dan provided the following resolutions:

1. The laboratory will note the elevated cooler temperature in the Case/SDG Narrative and proceed with the analysis of the samples.

2. SMO will confirm with the laboratory that there was nothing marked on the tags/bottles that would indicate that the samples might be dissolved. If not, then the laboratory will note the issue in the Case/SDG Narrative and proceed with the TM analysis of the samples.

3. The laboratory will note the issue in the Case/SDG Narrative and proceed with the analysis of the samples.

**From:** Kramer, Caroline  
**Sent:** Thursday, August 20, 2009 3:24 PM

8/21/2009

: 000003

**To:** Carroll Harris; Dan Slizys; John Kwedar  
**Subject:** NEW ISSUE | Case 38855 | Lab DATAC | Issue Multiple

Dan/Carroll,  
 DATAC is reporting the following issues regarding Case 38855. Please advise.

-Missing temperature blank-

Issue 1: The cooler was received with no ice and no temperature blank. The cooler temperature was determined to be 23 degrees.

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Issue 3: The TR states that the 3 water samples received (MC2170, MC2171, MC2172) are not preserved but they were. The laboratory double checked them and they all have a pH of 2.

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 Thank you,

Caroline L. Kramer  
 Environmental Coordinator - Regions 3 and 9  
 CSC

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---

**From:** Olson, Roxanne [mailto:[olsonr@datachem.com](mailto:olsonr@datachem.com)]  
**Sent:** Thursday, August 20, 2009 1:22 PM  
**To:** Kramer, Caroline  
**Subject:** FW: Inorganic Case 38855 Region 3

Caroline:

Please see the issues outlined below for samples we received today for case 38855. Resolutions please. Thanks.

Roxy

---

**From:** Edwards, Meredith D.  
**Sent:** Thursday, August 20, 2009 11:16 AM  
**To:** ALS SLC EPA  
**Subject:** Inorganic Case 38855 Region 3

Here are the issues with this case

1. There was no ice and no temp blank. The temp was 23 degrees.
2. We are scheduled for filtered and unfiltered samples, I am assuming that these are unfiltered but I just want to double check.
3. The TR states that the 3 water samples that I received MC2170;MC2171;MC2172 are not preserved but they were. I double checked them and they were at a 2 for ph.

8/21/2009

: 00004

I have attached the TR's.

Thanks  
Mere

## **Appendix 9**

### **2009 HRS Site Score Package**



**TABLE 3-1 --GROUND WATER MIGRATION PATHWAY SCORESHEET**

Factor categories and factors	Maximum Value	Value Assigned
Aquifer Evaluated:		
<b>Likelihood of Release to an Aquifer:</b>		
1. Observed Release	550	0
2. Potential to Release:		
2a. Containment	10	3
2b. Net Precipitation	10	6
2c. Depth to Aquifer	5	3
2d. Travel Time	35	35
2e. Potential to Release [(lines 2a(2b + 2c + 2d)]	500	132
3. Likelihood of Release (higher of lines 1 and 2e)	550	132
<b>Waste Characteristics:</b>		
4. Toxicity/Mobility	(a)	0
5. Hazardous Waste Quantity	(a)	0
6. Waste Characteristics	100	0
<b>Targets:</b>		
7. Nearest Well	(b)	3
8. Population:		
8a. Level I Concentrations	(b)	0
8b. Level II Concentrations	(b)	0
8c. Potential Contamination	(b)	0
8d. Population (lines 8a + 8b + 8c)	(b)	0
9. Resources	5	0
10. Wellhead Protection Area	20	0
11. Targets (lines 7 + 8d + 9 + 10)	(b)	3
<b>Ground Water Migration Score for an Aquifer:</b>		
12. Aquifer Score [(lines 3 x 6 x 11)/82,5000] <sup>c</sup>	100	0
<b>Ground Water Migration Pathway Score:</b>		
13. Pathway Score ( $S_{gw}$ ), (highest value from line 12 for all aquifers evaluated) <sup>c</sup>	100	0

<sup>a</sup> Maximum value applies to waste characteristics category

<sup>b</sup> Maximum value not applicable

<sup>c</sup> Do not round to nearest integer

**TABLE 4-1 --SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET**

Factor categories and factors	Maximum Value	Value Assigned
Watershed Evaluated: Cobun Creek Reservoir		
<b>Drinking Water Threat</b>		
<b>Likelihood of Release:</b>		
1. Observed Release	550	0
2. Potential to Release by Overland Flow:		
2a. Containment	10	10
2b. Runoff	10	3
2c. Distance to Surface Water	5	25
2d. Potential to Release by Overland Flow [(lines 2a)(2b + 2c)]	35	280
3. Potential to Release by Flood:		
3a. Containment (Flood)	10	10
3b. Flood Frequency	50	7
3c. Potential to Release by Flood (lines 3a x 3b)	500	70
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	350
5. Likelihood of Release (higher of lines 1 and 4)	550	350
<b>Waste Characteristics:</b>		
6. Toxicity/Persistence	(a)	10000
7. Hazardous Waste Quantity	(a)	100
8. Waste Characteristics	100	32
<b>Targets:</b>		
9. Nearest Intake	50	45
10. Population:		
10a. Level I Concentrations	(b)	521
10b. Level II Concentrations	(b)	
10c. Potential Contamination	(b)	
10d. Population (lines 10a + 10b + 10c)	(b)	521
11. Resources	5	5
12. Targets (lines 9 + 10d + 11)	(b)	571
<b>Drinking Water Threat Score:</b>		
13. Drinking Water Threat Score [(lines 5x8x12)/82,500, subject to a max of 100]	100	77.52
<b>Human Food Chain Threat</b>		
<b>Likelihood of Release:</b>		
14. Likelihood of Release (same value as line 5)	550	350
<b>Waste Characteristics:</b>		
15. Toxicity/Persistence/Bioaccumulation	(a)	50000
16. Hazardous Waste Quantity	(a)	100
17. Waste Characteristics	1000	32
<b>Targets:</b>		
18. Food Chain Individual	50	2
19. Population		
19a. Level I Concentration	(b)	
19b. Level II Concentration	(b)	
19c. Potential Human Food Chain Contamination	(b)	1
19d. Population (lines 19a + 19b + 19c)	(b)	1
20. Targets (lines 18 + 19d)	(b)	3
<b>Human Food Chain Threat Score:</b>		
21. Human Food Chain Threat Score [(lines 14x17x20)/82500, subject to max of 100]	100	0.41
<b>Environmental Threat</b>		
<b>Likelihood of Release:</b>		
22. Likelihood of Release (same value as line 5)	550	350
<b>Waste Characteristics:</b>		
23. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	50000
24. Hazardous Waste Quantity	(a)	100
25. Waste Characteristics	1000	32

**Targets:**

26. Sensitive Environments			
26a. Level I Concentrations	(b)		
26b. Level II Concentrations	(b)		
26c. Potential Contamination	(b)	25	
26d. Sensitive Environments (lines 26a + 26b + 26c)	(b)	50	
27. Targets (value from line 26d)	(b)		50

**Environmental Threat Score:**

28. Environmental Threat Score [(lines 22x25x27)/82,500 subject to a max of 60]	60		6.79
---	----	--	------

**Surface Water Overland/Flood Migration Component Score for a Watershed**

29. Watershed Score <sup>c</sup> (lines 13+21+28, subject to a max of 100)	100		84.72
--	-----	--	-------

**Surface Water Overland/Flood Migration Component Score**

30. Component Score ( $S_{sw}$ ) <sup>c</sup> (highest score from line 29 for all watersheds evaluated)	100		84.72
---	-----	--	-------

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<sup>a</sup> Maximum value applies to waste characteristics category

<sup>b</sup> Maximum value not applicable

<sup>c</sup> Do not round to nearest integer

**TABLE 4-25 --GROUND WATER TO SURFACE WATER MIGRATION COMPONENT SCORESHEET**

Factor categories and factors	Maximum Value	Value Assigned
Aquifer Evaluated: T-40		
<b>Drinking Water Threat</b>		
<b>Likelihood of Release to an Aquifer:</b>		
1. Observed Release	550	0
2. Potential to Release:		
2a. Containment	10	3
2b. Net Precipitation	10	1
2c. Depth to Aquifer	5	3
2d. Travel Time	35	35
2e. Potential to Release [(lines 2a(2b + 2c + 2d)]	500	117
3. Likelihood of Release (higher of lines 1 and 2e)	550	117
<b>Waste Characteristics:</b>		
4. Toxicity/Mobility	(a)	100
5. Hazardous Waste Quantity	(a)	100
6. Waste Characteristics	100	10
<b>Targets:</b>		
7. Nearest Well	(b)	0
8. Population:		
8a. Level I Concentrations	(b)	0
8b. Level II Concentrations	(b)	0
8c. Potential Contamination	(b)	0
8d. Population (lines 8a + 8b + 8c)	(b)	0
9. Resources	5	0
10. Targets (lines 7 + 8d + 9)	(b)	0
<b>Drinking Water Threat Score:</b>		
11. Drinking Water Threat Score [(lines 3 x 6 x 10)/82,500, subject to max of 100]	100	0
<b>Human Food Chain Threat</b>		
<b>Likelihood of Release:</b>		
12. Likelihood of Release (same value as line 3)	550	117
<b>Waste Characteristics:</b>		
13. Toxicity/Mobility/Persistence/Bioaccumulation	(a)	500
14. Hazardous Waste Quantity	(a)	100
15. Waste Characteristics	1000	10
<b>Targets:</b>		
16. Food Chain Individual	50	
17. Population		
17a. Level I Concentration	(b)	0
17b. Level II Concentration	(b)	0
17c. Potential Human Food Chain Contamination	(b)	0
17d. Population (lines 17a + 17b + 17c)	(b)	0
18. Targets (lines 16 + 17d)	(b)	2
<b>Human Food Chain Threat Score:</b>		
19. Human Food Chain Threat Score [(lines 12x15x18)/82,500,subject to max of 100]	100	0.028363636 3636364
<b>Environmental Threat</b>		
<b>Likelihood of Release:</b>		
20. Likelihood of Release (same value as line 3)	550	117
<b>Waste Characteristics:</b>		
21. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	500
22. Hazardous Waste Quantity	(a)	100
23. Waste Characteristics	1000	10
<b>Targets:</b>		
24. Sensitive Environments		
24a. Level I Concentrations	(b)	0
24b. Level II Concentrations	(b)	0

24c. Potential Contamination	(b)	0	
24d. Sensitive Environments (lines 24a + 24b + 24c)	(b)	0	
25. Targets (value from line 24d)	(b)		0
<b>Environmental Threat Score:</b>			
26. Environmental Threat Score [(lines 20x23x25)/82,500 subject to a max of 60]	60		0
<b>Ground Water to Surface Water Migration Component Score for a Watershed</b>			
27. Watershed Score <sup>e</sup> (lines 11 + 19 + 28, subject to a max of 100)	100		0.028363636 3636364
28. Component Score (S <sub>gs</sub> ) <sup>c</sup> (highest score from line 27 for all watersheds evaluated, subject to a max of 100)	100		0.028363636 3636364

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<sup>a</sup> Maximum value applies to waste characteristics category

<sup>b</sup> Maximum value not applicable

<sup>c</sup> Do not round to nearest integer

**TABLE 5-1 --SOIL EXPOSURE PATHWAY SCORESHEET**

Factor categories and factors	Maximum Value	Value Assigned
<b>Likelihood of Exposure:</b>		
1. Likelihood of Exposure	550	550
<b>Waste Characteristics:</b>		
2. Toxicity	(a)	10000
3. Hazardous Waste Quantity	(a)	100
4. Waste Characteristics	100	32
<b>Targets:</b>		
5. Resident Individual	50	0
6. Resident Population:		
6a. Level I Concentrations	(b)	0
6b. Level II Concentrations	(b)	0
6c. Population (lines 6a + 6b)	(b)	0
7. Workers	15	0
8. Resources	5	0
9. Terrestrial Sensitive Environments	(c)	0
10. Targets (lines 5 + 6c + 7 + 8 + 9)	(b)	0
<b>Resident Population Threat Score</b>		
11. Resident Population Threat Score (lines 1 x 4 x 10)	(b)	0
<b>Nearby Population Threat</b>		
<b>Likelihood of Exposure:</b>		
12. Attractiveness/Accessibility	100	75
13. Area of Contamination	100	100
14. Likelihood of Exposure	500	500
<b>Waste Characteristics:</b>		
15. Toxicity	(a)	10000
16. Hazardous Waste Quantity	(a)	100
17. Waste Characteristics	100	32
<b>Targets:</b>		
18. Nearby Individual	1	1
19. Population Within 1 Mile	(b)	33
20. Targets (lines 18 + 19)	(b)	34
<b>Nearby Population Threat Score</b>		
21. Nearby Population Threat (lines 14 x 17 x 20)	(b)	544000
<b>Soil Exposure Pathway Score:</b>		
22. Pathway Score <sup>d</sup> (S <sub>s</sub> ), [(11+21)/82,500, subject to max of 100]	100	6.59

<sup>a</sup> Maximum value applies to waste characteristics category

<sup>b</sup> Maximum value not applicable

<sup>c</sup> No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited to a maximum of 60

<sup>d</sup> Do not round to nearest integer

**TABLE 6-1 --AIR MIGRATION PATHWAY SCORESHEET**

Factor categories and factors	Maximum Value	Value Assigned
<b>Likelihood of Release:</b>		
1. Observed Release	550	0
2. Potential to Release:		
2a. Gas Potential to Release	500	
2b. Particulate Potential to Release	500	
2c. Potential to Release (higher of lines 2a and 2b)	500	
3. Likelihood of Release (higher of lines 1 and 2c)	550	0
<b>Waste Characteristics:</b>		
4. Toxicity/Mobility	(a)	
5. Hazardous Waste Quantity	(a)	
6. Waste Characteristics	100	
<b>Targets:</b>		
7. Nearest Individual	50	
8. Population:		
8a. Level I Concentrations	(b)	
8b. Level II Concentrations	(b)	
8c. Potential Contamination	(c)	
8d. Population (lines 8a + 8b + 8c)	(b)	
9. Resources	5	
10. Sensitive Environments:		
10a. Actual Contamination	(c)	
10b. Potential Contamination	(c)	
10c. Sensitive Environments (lines 10a + 10b)	(c)	
11. Targets (lines 7 + 8d + 9 + 10c)	(b)	
<b>Air Migration Pathway Score:</b>		
12. Pathway Score ( $S_a$ ) [(lines 3 x 6 x 11)/82,500] <sup>d</sup>	100	0

<sup>a</sup> Maximum value applies to waste characteristics category

<sup>b</sup> Maximum value not applicable

<sup>c</sup> No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.

<sup>d</sup> Do not round to nearest integer