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RESPONSIVENESS - INTEGRITY - TEAMWORK

January 18, 2007

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New Mexico Environment Department
Hazardous Waste Bureau
Permits Management Program
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Attention: Mr. John E. Kieling
Program Manager

Subject: Confirmatory Sampling Work Plan for Multiple Sites
Holloman Air Force Base, New Mexico

Dear Mr. Kieling,

Bhate Environmental Associates, Inc. (Bhate) is pleased to submit the above referenced document for your review and comment.

If you have any questions, please feel free to call me at 303-815-1762.

Sincerely,
Bhate Environmental Associates, Inc.

Frank Gardner, PG
Program Manager

cc w/ enclosure:

Cornelius Amindyas (NMED HWB)

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Phone (205) 918-4000 • Fax (205) 918-4050

DATE	JOB NO
Jan. 18, 2007	9050360

ATTENTION: Mr. John E. Kieling

RE: Multiples Sites
Holloman AFB, NM

TO: New Mexico Environment Department
Hazardous Waste Bureau
Permits Management Program
2905 Rodeo Park Drive, East
Building 1
Santa Fe, NM 87505-6303

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RCRA FACILITY ASSESSMENT

CONFIRMATORY SAMPLING WORK PLAN
MULTIPLE SITES
HOLLOMAN AFB, NEW MEXICO

Prepared for:

49 CES/CEV
Holloman Air Force Base
New Mexico

Under Contract To:

U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

Contract No. DACA87-02-D0003
Task Order No. DK01

Prepared by:

Bhate Environmental Associates, Inc.
1608 13th Avenue South, Suite 300
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Bhate Project No. 9050360.01

January 2007

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RCRA FACILITY ASSESSMENT

CONFIRMATORY SAMPLING WORK PLAN

MULTIPLE SITES

HOLLOMAN AFB, NEW MEXICO

REVIEW SHEET

This Work Plan has been reviewed and approved by:

John Hymer Site Manager	Signature	Date
Jim Moore, P.G. Project Manager	Signature	Date
Frank Gardner, P.G. Program Manager	Signature	Date

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RCRA FACILITY ASSESSMENT
CONFIRMATORY SAMPLING WORK PLAN
MULTIPLE SITES
HOLLOMAN AFB, NEW MEXICO
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E Site-Specific Addendum to the Basewide Health and Safety Plan
F Quality Assurance Project Plan Addendum

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ACRONYMS AND ABBREVIATIONS

AAF	Army Air Field
AF Fm	Air Force Form
amsl	Above mean sea level
ANSI	American National Standards Institute
AOC	Area of Concern
AST	Aboveground storage tank
ASTM	American Society for Testing and Materials
BEAR	Basic Expeditionary Airfield Resources
bgs	Below ground surface
Bhate	Bhate Environmental Associates, Inc.
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CES/CEV	Civil Engineering Squadron/Combat Engineer Vehicle
COC	Chain-of-custody
DCA	Dichloroethane
DPT	Direct push technology
DRO	Diesel range organics
ERP	Environmental Restoration Program
ERPIMS	Environmental Restoration Program Information Management System
°F	Degrees Fahrenheit
FID	Flame ionization detector
FWENC	Foster Wheeler Environmental Corporation
GPS	Global positioning system
GRO	Gasoline range organics
GTI	Groundwater Technology, Inc.
HAFB	Holloman Air Force Base
HASP	Health and Safety Plan
IDW	Investigation-Derived Waste
LTM	Long Term Monitoring
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
MCL	Maximum Contaminant Level
MS	Matrix spike
MSD	Matrix spike duplicate
NAD	North American Datum
NFA	No Further Action
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
ORO	Oil range organics
OSHA	Occupational Safety and Health Administration

ACRONYMS AND ABBREVIATIONS (CONTINUED)

OVA	Organic vapor analyzer
PA	Preliminary Assessment
PCB	Polychlorinated Bi-phenyl
P.G.	Professional Geologist
PID	Photoionization detector
PPE	Personal protective equipment
ppm	Parts per million
PVC	Polyvinyl chloride
QA	Quality assurance
QAPP	Quality Assurance Project Plan
QC	Quality control
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
SOP	Standard Operating Procedure
SSL	Soil screening level
SVOC	Semi-volatile organic compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TCE	Trichloroethylene
TDS	Total dissolved solids
TNT	Trinitrotoluene
TPH	Total petroleum hydrocarbons
TRPH	Total Recoverable Petroleum Hydrocarbons
USAF	United States Air Force
USACE	United States Army Corps of Engineers
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile organic compound
WRCC	Western Regional Climate Center
WWTP	Wastewater Treatment Plant

1 INTRODUCTION

Bhate Environmental Associates, Inc., (Bhate) has been retained by the U.S. Army Corps of Engineers (USACE), under contract DACA87-02-D0003, Task Order No. DK01, to conduct a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Preliminary Assessment (PA) at nine of the Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at Holloman Air Force Base (HAFB), New Mexico. A copy of the Scope of Services issued by the Omaha District of the USACE dated November 8, 2005, for the nine sites (SS-65, SS-66, SS-67, SS-68, SS-69, SS-72, SS-73, RW-70, and TU-71) is included in Appendix A of this Work Plan.

In 1988, under the Resource Conservation Recovery Act (RCRA), a RCRA Facility Assessment (RFA) was performed at HAFB and included sites SS-65, SS-66, SS-67, SS-68, SS-69, RW-70, and TU-71 (A.T. Kearney, 1988). The RFA recommended that these sites be investigated further to confirm the presence of contamination. The purpose of this document, therefore, is to describe the scope of the field investigation at these locations as well as Sites SS-72 and SS-73 which are discussed below.

During the review of the RFA and other site-related documents, it was noted that SWMUs AOC-B (SS-65) and AOC-S (TU-71) appeared to be co-located and therefore their investigations will be combined so that the investigation of site SS-65 will serve to characterize both sites. This proposal was discussed with personnel from the New Mexico Environment Department (NMED) during a conference call held on November 2, 2006, and was met with approval.

During this call, the remediation work at site SWMU AOC-Q (SS-17) was discussed as it relates to site SWMU AOC-M (RW-70). The excavation and removal of contaminated soil at SWMU AOC-Q (SS-17) over the past two years has removed all contaminated soil and structures in the location of site RW-70. Therefore, NMED agreed to accept the confirmation soil sampling results for SS-17 as evidence that contamination at site RW-70 was also removed, and in addition, the NMED recommended that site RW-70 be removed from the HAFB Hazardous Waste Facility Permit via a Class III Permit Modification.

Sites SS-72 and SS-73 were discovered between 2003 and 2004 and were not part of the original 1988 RFA. These sites were created to investigate newly discovered contamination at already existing sites. In the case of SS-72, potential trichloroethylene (TCE) contamination was found in groundwater upgradient from site LF-21 and site SS-73 was identified to assess the source of upgradient TCE contamination associated with well MW02 at Site SS-61. During the November 2, 2006, conference call, NMED recommended that both sites be added to the HAFB Hazardous Waste Facility Permit.

This Work Plan will serve as the primary working document to conduct the field investigations at these sites and collect the data that is necessary to fulfill the requirements identified by NMED to achieve site closure. This document is organized into seven sections. Section 1 describes the history of HAFB and the geologic, hydrogeologic, physiographic settings, and the climatological

setting of the Base. Section 2 presents the known information for each of the sites and the work plan for performing confirmatory sampling at each location. Pre-investigative requirements and investigative requirements necessary to execute tasks for the field work are presented in Section 3. Project quality assurance and health and safety requirements are described in Sections 4 and 5, and the references are in Section 7.

It should be noted that the December 2006 version of this document was reviewed by USACE personnel and comments were submitted accordingly. These review comments along with their corresponding response are summarized in Attachment 1 and the necessary revisions are already reflected in this version of the document.

1.1 Base Description

HAFB is situated in south central New Mexico, in the northwest central part of Otero County, approximately 75 miles north-north-east of El Paso, Texas (Figure 1-1). HAFB has a population of 6,000 and occupies about 50,000 acres in the northeast quarter of Section 1, Township 17 South, Range 8 East. The White Sands Missile Range testing facilities occupy additional land extending northward from the Base. Private and public owned lands border the remainder of HAFB. The major highway servicing HAFB is Highway 70, which runs southwest from the town of Alamogordo and separates HAFB from publicly owned lands to the south. Alamogordo which has a population of approximately 35,000 is located approximately 7 miles east of the base.

HAFB was first established in 1942 as Alamogordo Army Air Field (AAF). From 1942 through 1945, Alamogordo AAF served as the training grounds for over 20 different flight groups, flying primarily B-17s, B-24s, and B-29s. After World War II, most operations had ceased at the base. In 1947, Air Material Command announced the air field would be its primary site for the testing and development of un-manned aircraft, guided missiles, and other research programs. On January 13, 1948, the Alamogordo installation was renamed Holloman Air Force Base, in honor of the late Col. George V. Holloman; a pioneer in guided missile research. In 1968, the 49th Tactical Fighter Wing arrived at HAFB and has remained since. Today, HAFB also serves as the training center for the German Air Force's Tactical Training Center.

1.2 Physiography and Topography

Holloman AFB is located within the Sacramento Mountains Physiographic Province on the western edge of the Sacramento Mountains. HAFB is approximately 59,600 acres in area, and is located at a mean elevation of 4,093 feet above mean sea level (amsl). The region is characterized by high tablelands with rolling summit plains; cuesta-formed mountains dipping eastward and of west-facing escarpments with the wide bracketed basin forming the basin and range complex. The Base is located in the Tularosa Sub-basin which is part of the Central Closed Basins. The bordering mountains rise abruptly to altitudes of 7,000 to 12,000 feet amsl. The San Andres Mountains bound the basin to the west (about 30 miles) with the Sacramento

Mountains approximately 10 miles to the east (Figure 1-1). At its widest, the basin is about 60 miles east to west and stretches approximately 150 miles north to south.

1.3 Surface Water and Hydrology

The Tularosa Basin contains all of the surface flow in its boundaries. The nearest inflow of surface waters to the Base comes from the Lost River, located in the north-central region of the Base. The upper reaches of the Three Rivers and the Sacramento River are perennial in the basin. HAFB is dissected by several southwest trending arroyos that control the surface drainage. Hay Draw arroyo is located in the far north. Malone and Rita's Draw, which drain into the Lost River and Dillard Draw arroyos, are located along the eastern perimeter of the Base. Approximately 10,000 years ago, indications are of a much wetter climate. The present day Lake Otero encompassed a much larger area, possibly upwards of several hundred square miles. Its remains are the Alkali Flat and Lake Lucero. Lake Lucero is a temporary feature of merely a few inches in depth during the rainy season.

Ancient lakes and streams deposited water bearing deposits over the older bedrock basement material. Fractures, cracks, and fissures in the Permian and Pennsylvanian bedrock yield small quantities of relatively good quality water in the deeper peripheral. Potable water is only found from a handful of wells near the edges of the basin with more saline water towards the center. Two of the principal sources of potable water are a long narrow area on the upslope sides of Tularosa and Alamogordo with the other in the far southwestern part of the basin. Alamogordo's water, as well as the Base's, is supplied from Lake Bonito (which is in the Pecos River Basin).

1.4 Regional Geology

The sedimentary rocks which make up the adjacent mountain ranges are between 500 and 250 million years old (White Sands Missile Range (WSMR), 2003). During the period when the area was submerged under the shallow intra-continental sea, the layers of limestone, shale, gypsum, and sandstone were deposited. In time, these layers were pushed upward through various tectonic forces forming a large bulge on the surface. Approximately 10 million years ago the center began to subside resulting in a vertical drop of thousands of feet leaving the edges still standing (the present day Sacramento and San Andres mountain ranges). In the millions of years following, rainfall, snowmelt, and wind eroded the mountain sediments depositing them in the valley (i.e. Tularosa Basin). Water carrying eroded gypsum, limestone, dolomite, gravel, and other alluvial matter continues to flow into the basin with no route of exit.

The Tularosa Sub-basin is geologically described as a bolson, which is an extensive flat alluvium-floored depression, into which drainage from the surrounding mountains flows toward a central playa. The overlying alluvium generally consists of unconsolidated gravels (limestone, dolomite, and gypsum), sands, and clays. A fining sequence from the San Andreas and Sacramento Ranges towards the basin's center characterizes the area with the near surface soils as alluvial, eolian, and lacustrine deposits. The alluvial fan deposits are laterally discontinuous units of interbedded sand, silt, and clay while the eolian deposits consist primarily of gypsum

sands. The eolian and alluvial deposits are usually indistinguishable due to the reworking of the alluvial sediment by eolian processes. The playa, or lacustrine deposits, consist of silty clay containing gypsum and are contiguous with the alluvial fan and eolian deposits.

Mesozoic rocks in the northwest mark the Colorado Plateau, topped by younger Tertiary strata. Quaternary age sediments have washed off the Southern Rockies into the open basins and the Rio Grande Rift, a failed spreading center or aulacogen. This would-be ocean basin runs up the center of the state with the Rio Grande flowing down its middle, exposing the Paleozoic and Precambrian rocks on its uplifted flanks. Later Cenozoic volcanic intrusions of Quaternary and Tertiary age are also associated with the rifting.

The great Permian Basin of Texas continues into the state from the southeast with younger Quaternary-Tertiary sediments of the Great Plains cover the whole eastern edge. Basin-and-range terrain of Tertiary sediments and volcanics appear in the extreme southwest coupled with wide dry basins choked with Quaternary coarse sediments eroded from the blocks of uplifted older rocks.

1.5 Regional Hydrogeology

The predominance of the groundwater occurs as an unconfined aquifer in the unconsolidated deposits of the central basin, with the primary source of recharge as rainfall percolation and minor amounts of stream run-off along the western edge of the Sacramento Mountains. Surface water/rainfall migrates downward into the alluvial sediments at the edge of the shallow aquifer near the ranges, and flows downgradient through progressively finer-grained sediments towards the central basin. Because the Tularosa Basin is a closed system, water that enters the area only leaves either through evaporation or percolation. This elevated amount of percolation results in a fairly high water table. Beneath HAFB, groundwater ranges from 5 to 50 feet. Flow for the Base is generally towards the southwest with localized influences from the variations in the topography of the Base. Near the arroyos, groundwater flows directly toward the surface drainage feature.

Groundwater quality in the Tularosa Basin is of potable quality at the recharge areas in close proximity to the Sacramento Mountains and becomes increasingly mineralized toward the central portion of the basin and discharge areas (Radian, 1993). The majority (over 70%) of the Environmental Restoration Program (ERP) Sites / SWMUs / AOCs located across HAFB, have groundwater monitoring wells containing water with an average total dissolved solids (TDS) concentration greater than 10,000 milligrams per liter (mg/L). This TDS data supports the hypothesis that TDS concentrations below 10,000 mg/L at HAFB are caused by dilution of natural groundwater from leaking water lines and surface irrigation from the domestic water supply. TDS concentrations greater than 10,000 mg/L exceed the New Mexico Water Quality Control Commission (NMWQCC) limit as potable water and thus, the groundwater beneath HAFB has been designated as unfit for human consumption. Likewise, U.S. Environmental

Protection Agency (USEPA) guidelines have identified the groundwater as a Class IIIB water source, characterized by TDS concentrations exceeding 10,000 mg/L.

In addition, there are no potable water wells on HAFB. Potable water for the base and the city of Alamogordo is derived from the nearby Sacramento Mountains. The only production water well, used for livestock irrigation, is located approximately 7 miles southwest of HAFB.

1.6 Climate

As a whole, New Mexico has a mild, arid to semi-arid continental climate characterized by light precipitation totals; abundant sunshine, relatively low humidity and relatively large annual and diurnal temperature range (Western Regional Climate Center [WRCC], 2003). The climate of the Central Closed Basins varies with elevation. The Base is found in the low areas and is characterized by warm temperatures and dry air. Daytime temperatures often exceed 100 degrees Fahrenheit (°F) in the summer months and middle 50s in the winter. A preponderance of clear skies and relatively low humidity permits rapid night time cooling resulting in average diurnal temperature ranges of 25 to 35°F.

Potential evapotranspiration, at 67 inches per year, significantly exceeds annual precipitation, usually less than 10 inches. The very low rainfall amounts resulting in the arid conditions, which with the topographically induced wind patterns combining with the sparse vegetation, tend to cause localized "dust devils". Much of the precipitation falls during the mid-summer monsoonal period (July and August) as brief, yet frequent, intense thunderstorms culminating to 30 – 40% of the annual total rainfall.

1.7 Water Use

HAFB is located in the Tularosa Sub-basin. Potable water is available from municipal wells along the margins of the basin with more saline water towards the center. The principle sources of potable water are located in a long narrow north-south trending area east of Alamogordo and Tularosa and in the far southern part of the basin. HAFB is supplied potable water from Lake Bonito, which is in the Pecos River Basin.

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2 CONFIRMATORY SAMPLING WORK PLAN

The purpose of this section is to describe the findings from conducting a site visit to each location and performing a search of available records, and thereafter using this information to guide the confirmatory sampling at each site. This section is structured so that it describes each site, the records searched, past and current operational practices and dates of operations, release history, past investigations (only for SS-72 and SS-73), and the rationale and scope of the confirmatory sampling. The locations of these sites with respect to HAFB and each other can be seen on Figure 2-1. It should be noted that these sites, except for SS-72 and SS-73, were qualitatively evaluated as part of an RFA that was conducted in 1988.

2.1 SS-72, TCE Groundwater Contamination Upgradient of LF-21

This site is identified in the ERP as SS-72 and is named "TCE Groundwater Contamination Upgradient of LF-21". Although this site is not currently a documented SWMU and is not listed on Table A of the HAFB RCRA Permit (No. NM6572124422), it is expected to become one in the very near future.

2.1.1 Site Location

The location of site SS-72 is identified as the area just north of groundwater monitoring well MW21-01. This is the upgradient well for an already existing site known as the West Area Landfill # 2, or LF-21, or SWMU 116. There are three monitoring wells down gradient of LF-21 designated as MW21-02, -03, and -04. A detailed layout of this site and its surroundings is included as Figure 2-2.

2.1.2 Records Searched

The records that were searched to obtain information on this potential source area include:

- Aerial photographs over several years (1945, 1972, 1979, 1984, 1996, and 2004)
- *2005 Long Term Groundwater Monitoring Report* (Bhate, 2006)
- *Environmental Restoration Program Management Action Plan* (Holloman, 2004)
- *Draft Preliminary Investigation and Site Characterization West Ramp Fuel Contamination* (Woodward-Clyde, 1991)

2.1.3 Dates of Operation and Description of Past and Current Practices

Aerial photos taken in 1945, 1972, 1979, 1984, 1996, and 2004 from the area upgradient of monitoring well MW-21-01 were reviewed for signs of spills or maintenance facilities that

operated in earlier periods. This review only indicated that the area stretching approximately 800 feet north of this well has remained cleared and undeveloped since 1945. A site visit was made on August 14, 2006. It was noted that the nearest buildings (800, 806, 816, and 817) where maintenance activities occurred that likely used TCE as a degreaser are near the flight line about 900 feet to the northeast. No records exist documenting a release of TCE in the area of SS-72.

2.1.4 Previous Investigations and Historical Data

The TCE groundwater contamination was discovered during the sampling of monitoring wells MW-21-01, -02, -03, and -04 that were installed as part of the 10 year LTM Program for 11 RCRA sites that began in 1995 and performed monitoring of these wells every 2 years (Bhate, 2006a). These four wells were installed to meet the monitoring commitments for LF-21. The solvent TCE has only been detected in the upgradient well MW-21-01 and was measured at levels of 5.4, 11.0, 13.0, 15.0, and 13.3 micrograms per liter (µg/L) during the monitoring events that took place in 1997, 1999, 2001, 2003, and 2005, respectively. The Maximum Contaminant Level (MCL) for TCE in drinking water established by the USEPA is 5.0 µg/L. The monitoring results for TCE are summarized on Figure 2-2 and the analytical results from the LTM Program are summarized and presented in Appendix B.

In 1991, as part of an investigation of soil contamination in the West Ramp Area of the F-117 flight line, 6 monitoring wells and 14 boreholes were installed. Only monitoring well WCC-1 and borehole locations WR-TH-12 and WR-TH-13 are shown on Figure 2-2 because these are the closest to the area of interest for investigating the TCE contamination at SS-72. The soil and groundwater samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX), total recoverable petroleum hydrocarbons (TRPH), and metals. The analytical results corresponding to these locations are included in Appendix C. Mercury was the only analyte detected in the groundwater sample from WCC-1 at a concentration of 1.97 µg/L. This value is below the MCL of 2.0 µg/L for mercury in drinking water set by the USEPA.

Two soil samples were collected from each location, one from 2 feet and the second from 3.5 feet below ground surface (bgs). At location WR-TH-12, ethylbenzene and benzene were measured at concentrations of 7.3 and 0.8 µg/kg, respectively in the sample collected from a depth of 2 feet bgs, and the sample collected at 3.5 feet bgs contained chromium and zinc at levels of 1.2 and 4.0 milligrams per kilogram (mg/kg), respectively. At location WR-TH-13, chromium, lead, and zinc were measured at concentrations of 1.9, 6.7, and 10 mg/kg, respectively in the sample collected from a depth of 2 feet bgs, and the sample collected from 3.5 feet bgs showed chromium and zinc at levels of 2.0 and 6.6 mg/kg, respectively. In comparison, these levels are well below the health-based Soil Screening Levels (SSLs) for a future on-site resident published by the NMED (NMED, 2006).

2.1.5 Rationale and Scope of Confirmatory Sampling

TCE has consistently been measured in monitoring well MW-21-01 at levels above the MCL since 1997. The source has not been identified because there are no industrial facilities

immediately north of MW-21-01. The nearest building is about 200 yards to the north and is a small 15 x 15 foot building (Building 878) used for communications. Further upgradient about 400 yards from MW-21-01 are a cluster of buildings (800, 806, 816, and 817) that are used for maintenance and these could be the source of the TCE.

To help confirm the presence of TCE contamination, three boreholes will be placed northeast of MW-21-01 but south of buildings 816 and 817 in the locations shown on Figure 2-2. Direct push technology (DPT) sampling equipment will be used to install the boreholes to a depth of approximately 15 feet bgs or until groundwater is encountered. The borings will be continuously sampled and field-screened (head space analysis) to identify the single discrete sample from each borehole location that will be submitted for laboratory analysis. Staining and/or odor may also be used to select the samples for analysis. If the screening techniques do not indicate a clear selection for analysis the sample will be collected at the capillary fringe. The soil samples will be analyzed for Volatile Organic Compounds (VOCs) and Semi-Volatile Organic Compounds (SVOCs). A temporary monitoring well (hereinafter referred to as a temporary groundwater sampling point) will be installed in each completed boring. A groundwater sample from each point or well will be collected and analyzed for VOCs and TDS.

2.2 SS-73, TCE in Groundwater Adjacent to SS-61

This site is identified in the ERP as SS-73 and is named "TCE in Groundwater Adjacent to SS-61". Although this site is not currently a documented SWMU and is not listed on Table A of the HAFB RCRA Permit (No. NM6572124422), it is expected to become one in the very near future.

2.2.1 Location

The location of site SS-73 is generally known to be an open area located about 150 feet east of the concrete pad that is part of site SS-61. The exact limits of the site are unknown. Presently, a source for the TCE detected in groundwater is not known. A detailed lay-out of the site and its surroundings is included as Figure 2-3.

2.2.2 Records Searched

The records that were searched to obtain information on this potential source area include:

- Aerial photographs over several years (1945, 1972, 1979, and 2004)
- *Final Voluntary Corrective Measures Work Plan Site SS-61 Soil Remediation* (Bhate, 2006)
- *Final Remedial Investigation Report for Spill Site 61* (Foster Wheeler Environmental Corporation, 1999)
- *Memorandum Scope of Work for Soil and Groundwater Sampling* (Bhate, 2006b)
- *Sample Summary and Report of Analysis* (Accutest, 2006)

2.2.3 Dates of Operation and Description of Past and Current Practices

This site is related to the aviation gasoline fueling operation for squadrons of bombers that were temporarily stationed at HAFB from the end of WWII until the late 1940s. Past operational practices in this area have been primarily re-fueling and maintenance of aircraft. The fuel was stored in two aboveground storage tanks (ASTs) that have been since removed (see Figure 2-3). No practice or operation has been linked to the presence of TCE in groundwater at site SS-73. A building or operation has not been directly linked to SS-73. However, TCE was a common solvent and routinely used for maintenance procedures on all aircraft. Currently, no operations are conducted in this area related to air operations at the Base. A site visit was made on August 14, 2006. The nearest buildings are to the south about 300 feet away and are occupied by the 49th Testing Squadron.

2.2.4 Previous Investigations and Historical Data

As previously discussed, the origin of site SS-73 results from the occurrence of TCE that has been measured in well SS-61-MW02 on several occasions. Site SS-61 resulted from the occurrence of VOCs in well MW-29-05 which is part of site LF-29 (the Old Army Landfill) located downgradient of SS-61. Several environmental investigations have been conducted in this area to determine the source of VOC contamination originally detected in groundwater monitoring well MW-29-05.

Contamination was initially detected in the vicinity of SS-61 during the Phase II RCRA Facility Investigation (RFI) Table 1 Investigation that was conducted at nearby SWMU 104, the Former Army Landfill (also known as LF-29) in 1995 (Radian, 1995). Four additional groundwater monitoring wells (MW-29-05 through MW-29-08) were installed in 1997 and a complete round of groundwater sampling and analysis was conducted (8 groundwater monitoring wells). The results showed that MW-29-05 contained benzene at 3,100 µg/L, 1,2-dichloroethane (1,2-DCA) at 350 µg/L, 2,4,6-trinitrotoluene (TNT) at 0.23 µg/L, and 1,3,5-trinitrobenzene at 2.6 µg/L. Since the source of groundwater contamination was expected to be to the southeast of MW-29-05 and to the east of Building 1001, SS-61 was identified and subsequent Phase I and II RFIs were conducted in 1996 and 1997 (Foster Wheeler Environmental Corporation [FWENC] and Groundwater Technology, Inc. [GTI], 1997). During these investigations, TCE was measured in well SS61-MW02 in concentrations of 13.6 and 45.0 µg/L, respectively, and, TCE was measured at 14.0 µg/L in the DPT groundwater sampling point DP-20 (see Figure 2-3 for selected results and sampling locations).

During the Remedial Investigation of SS-61 in 1999, TCE was reported at 34 µg/L in well SS61-MW-02 (it should be noted that this value is not shown on Figure 2-3). Because there is no known or obvious source for the TCE, it was separated from site SS-61 and designated as site SS-73 to be investigated separately.

In 2006, an abbreviated sampling plan was prepared by Bhate to collect preliminary data that would be useful for preparing an RFI work plan for this site. The scope of this effort was to resample monitoring well SS61-MW-02 for VOCs, collect two groundwater samples at locations upgradient of monitoring well SS61-MW-02, to resample the old DPT point DP-20 (now called DP03), and collect a soil sample from each DPT boring. All samples were analyzed for VOCs and the groundwater samples were also analyzed for TDS. The VOCs were reported below detection levels in all soil samples. TCE and benzene were reported in the groundwater from SS61-MW02 and DP03 (old DP-20) at 13.6 and 13.1 µg/L and 2.4 and 11.0 µg/L, respectively. The TDS levels measured at locations SS61-MW02, DP01, DP02, and DP03 were 12,500; 11,500; 8,970; and 21,600 mg/L, respectively (see Figure 2-3). The analytical results for these May and June 2006 sampling events are included in Appendix D.

The chronology of previous investigations from 1996 through 2005 at this site, based on reports reviewed is outlined below:

- *Draft Final Workplans – Field Sampling and Analysis Plan and Quality Assurance Project Plan for Characterization of AOC-1001 Holloman AFB, NM (*Foster Wheeler and GTI, 1996)
- *Draft Final Phase I and II RCRA Facility Investigation Report Site AOC 1001, Holloman AFB, NM* (Foster Wheeler and GTI, 1997)
- *Final Phase I Remedial Investigation for Spill Site 61, Holloman AFB, NM* (Foster Wheeler Environmental Corporation, 1999)
- *Final Phase II Remedial Investigation for SS- 61 – Spill Site 61, Holloman AFB, NM* (Foster Wheeler Environmental Corporation, 2000)
- *Monitored Natural Attenuation Report for SS-61 (AOC-100) Holloman AFB, New Mexico* (Bhate, 2005)
- *Memorandum Scope of Work for Soil and Groundwater Sampling, Holloman AFB, New Mexico* (Bhate, 2006b)

2.2.5 Rationale and Scope of Confirmatory Sampling

Previous investigations over the last 10 years have determined the extent of TCE contamination to the south, west, and north of monitoring well SS61-MW-02. The current subsurface conditions northeast of this area have not been determined and will be documented by installing three boreholes in this area and analyzing three soil samples.

DPT sampling equipment will be used to install three boreholes in the locations shown on Figure 2-3 to a depth of approximately 15 feet bgs or until groundwater is encountered. The borings will be continuously sampled and field-screened (head space analysis) to identify the single discrete sample from each borehole location that will be submitted for laboratory analysis. Staining and/or odor may also be used to select the samples for analysis. If the screening techniques do not indicate a clear selection for analysis the samples will be collected at the capillary fringe. The soil samples will be analyzed for VOCs and SVOCs.

Temporary groundwater sampling points will be installed in the completed borings. A groundwater sample will be collected from each point or well and analyzed for VOCs and TDS.

2.3 SS-65, Building 807 Test Cell Surface Spill

SWMU AOC-B is identified in the ERP as SS-65, the Building 807 Test Cell Surface Spill Area. This site is listed on Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422).

2.3.1 Location

The 1988 RFA identifies the location of this site as the "Area next to Building 807 Test Cell". Another document entitled *HAFB Environmental Restoration Program Site Status Summaries* prepared in December 2005 identifies the location of this site as 25 feet north of Building 807 (Holloman, 2005).

Aerial photographs of HAFB dated 1972, 1979, 1996, and 2004 were viewed and Building 807 could not be located. The Real Property Office at the base was contacted and it was learned that Building 807 is listed in their inventory as a cinder block building that was constructed in 1977 that measures 10 feet wide by 15 feet long. A detailed layout of this site and its surroundings is included as Figure 2-4.

The site which is in the sensitive F-117 area was visited on July 12, 2006. A cinder block building measuring 10 x 15 feet was found 40 feet southeast of Building 801. However, the building was not numbered as Building 807. The building is locked and stenciled with the number 1166. The building has no windows and is not occupied.

Even though oil and grease staining next to Building 807 was observed during the 1988 RFA, there were no visible signs of staining or spills of any kind noted during the site visit. Three soil piles were observed outside the northwest wall of the building. However the soil appears to be excess overburden removed during the repair of a nearby water line.

2.3.2 Records Searched

The records searched for this site included:

- Aerial photographs over several years (1972, 1979, 1996, and 2004)
- HAFB Real Property Records
- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report* (Kearney, 1988)
- *Construction Trim Pads W/Support (Phase I and II), Drawing Number HO 285A-6, Sheet 2.I of 10* (Holloman, 1980)
- *HAFB Environmental Restoration Program Site Status Summaries* (December, 2005)

- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report* (Kearney, 1988)

2.3.3 Dates of Operation and Description of Past and Current Practices

Building 807 was built in 1977 but does not appear to be in use currently. Because of its small size, it is believed to have been a bathroom facility for test personnel to use during the period that this particular engine test area was active. According to personnel from the HAFB 49th Civil Engineering Squadron/ Combat Engineer Vehicle (CES/CEV) Environmental Flight, this test cell area consisted of two trim pads and one engine test stand, and spills of jet fuel were known to occur especially after the engine was shut down following a test. The site was used to test engines from F-15 and F-4 fighter aircraft during the 1970s and 1980s. During the phase-in of the F-117s in the 1990s, this test cell area was abandoned and replaced with testing facilities suitable for the F-117 which are located approximately 300 yards southeast of the site. This test cell area is currently not operational because these aircraft are not part of air operations at HAFB.

2.3.4 Rationale and Scope of Confirmatory Sampling

This site has not been investigated in the past beyond the level of effort taken during the 1988 RFA. Beyond anecdotal information, there is no evidence of any kind of spill occurring at the site. The area surrounding this site has been disturbed during the construction of the adjacent F-117 bed down facilities. However, to provide documentation of current subsurface conditions at the site, one soil boring will be installed at the location shown on Figure 2-4 and sampled to determine if conditions in the vicinity of the 1988 surface staining are still present.

The soil boring will be installed using DPT sampling equipment. The depth of the boring will be approximately 15 feet bgs or until groundwater is encountered. The boring will be continuously sampled. The samples will be field-screened (head space analysis) and one discrete sample from the boring exhibiting characteristics of potential contamination will be submitted for laboratory analysis. Staining and/or odor may also be used to select the sample for analysis. If the screening techniques do not indicate a clear selection for analysis the sample will be collected at the capillary fringe. The soil sample will be analyzed for target analyte list (TAL) metals, total petroleum hydrocarbons (TPH), SVOCs, polychlorinated biphenyls (PCBs), and VOCs. A temporary groundwater sampling point will be installed in the completed boring. A groundwater sample will be collected from the point or well and submitted for laboratory analysis. The groundwater sample will be analyzed for TAL metals, TPH, VOCs, PCBs, SVOCs, and TDS.

2.4 SS-66, Building 835 Spills

SWMU AOC-C is identified in the ERP as SS-66, Building 835 Spills. This site is listed on Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422).

2.4.1 Location

The 1988 RFA identifies the location of this site as the "North side of Building 835". The HAFB Environmental Restoration Program Site Status Summaries Report (HAFB, 2005) identifies the location of this site as 65 feet west of Building 835. Building 835 was not located on a 2004 aerial photo of HAFB. The HAFB Real Property Office documented the demolition of Building 835 in 2001. Today the area where Building 835 stood is an open and vacant area located on the north end of the F-117 flight line and about 60 feet southwest of Building 809. The 1988 RFA identifies the site as an oil and rust stained area approximately 20 x 30 feet in size, located on the north side of Building 835. Detailed layouts of this site and its surroundings are included as Figures 2-5 (1996 aerial photograph) and 2-6 (2004 aerial photograph).

2.4.2 Records Searched

The records that were searched for this site included:

- Aerial photographs taken in 1996 and 2004
- *Real Property Form 300 Facility Disposal, Vacate Inspection/Environmental Clearance* (Holloman, 2000)
- *Memorandum Notifying of Facility Disposal* (Moya, 2001)
- *HAFB Environmental Restoration Program Site Status Summaries* (December, 2005)
- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report* (Kearney, 1988)

2.4.3 Dates of Operation and Description of Past and Current Practices

According to HAFB records, Building 835 was built in 1954 and was demolished in 2001. The building consisted of a concrete foundation and floor with sheet metal walls and roof and was 3,600 square feet in size. This building was used as a heat treating facility for jet engine parts, although it was used for furniture and equipment storage by the German Air Force during the last two years before demolition.

Mr. Bill Ford of the 49 CES/CEV Environmental Flight was interviewed on July 12, 2006, regarding operational practices at Building 835 and he discussed visiting Building 835 in the 1960s during his rounds to maintain boilers at several facilities within HAFB including this building. He confirmed the practice of heating and quenching metal parts in oil for the purpose of hardening or softening the metals. He recalls seeing recently quenched parts resting over metal horses to dry. The quenching oil would drip onto the concrete both inside and outside the building. These oil stains on the concrete pads outside the north side of the building are visible in the aerial photograph taken in 1996 (see Figure 2-5).

A visit to this location was made on July 12, 2006, which confirmed that Building 835 was demolished and in its place is a vacant lot. A smaller building (compressor house), identified in the 1996 aerial photograph near the northeast corner of Building 835, remains today. This building is not occupied and is of sheet metal construction and can serve as a reference to direct any field characterization activities as needed.

The search for operational history and practices from the heat treating operation that took place in the past at Building 835 did not reveal any releases other than those of quenching oil that were noticed in aerial photographs on the exterior concrete pads that were located on the north end of Building 835.

No visible signs of hydrocarbon staining, stressed vegetation or rust were observed in the area surrounding the former building during the July 12, 2006, visual examination of the site. The area is noted as stained in the 1988 RFA and appears to be stained in the 1996 aerial photograph. Most likely the area was disturbed during the demolition of the building in 2001.

2.4.4 Rationale and Scope for Confirmatory Sampling

This site has not been investigated in the past beyond the level of effort taken during the 1988 RFA. Institutional knowledge of the practices at Building 835 and possible staining observed in aerial photographs suggest the potential for impact to the subsurface at the site. However, no evidence of a release exists at the site. The area surrounding this site has been disturbed during the demolition of Building 835. In order to provide documentation of current subsurface conditions at the site, a soil boring will be installed and sampled to determine if conditions in the vicinity of the 1988 staining impacted the subsurface at the site.

One soil boring will be installed in the location shown on Figure 2-6 using DPT sampling equipment. The depth of the boring will be approximately 15 feet bgs or until groundwater is encountered. The boring will be continuously sampled. The samples will be field screened and one discrete sample from the boring exhibiting characteristics of potential contamination will be submitted for laboratory analysis. Staining and/or odor may also be used to select the sample for analysis. If the screening techniques do not indicate a clear selection for analysis the sample will be collected at the capillary fringe. The soil sample will be analyzed for TAL metals, TPH, SVOCs, PCBs, and VOCs. A temporary groundwater sampling point will be installed in the completed boring. A groundwater sample will be collected from the point or well and submitted for laboratory analysis. The groundwater sample will be analyzed for TAL metals, TDS, PCBs, VOCs, and SVOCs.

2.5 SS-67, Building 903-909 Sandblast Residue

SWMU AOC-E is identified in the ERP as site SS-67, Buildings 903-909 Sand Blast Residues. This site is listed on Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422).

2.5.1 Location

The 1988 RFA identifies this site as an area 50 x 50 feet in size of surface soil contaminated with sand blast residue that is located "100 feet east of Building 903". Building 903 is located in the south end of the 49th Materiel Maintenance Group complex at HAFB, also known as the BEAR (Basic Expeditionary Airfield Resources) Base.

It should be noted that during the 1988 RFA, Building 909 was included in the name of this site, thereby implying that it was part of the site. This is believed to be an error because Building 909 is located on the far north side of BEAR Base, approximately 2,000 feet away from Building 903. A detailed layout of this site and its surroundings is included as Figure 2-7.

2.5.2 Records Searched

The records that were searched for this site included:

- Aerial photographs taken in 1996 and 2004
- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report* (Kearney, 1988)
- *HAFB Environmental Restoration Program Site Status Summaries* (December, 2005)

2.5.3 Dates of Operation and Description of Past and Current Practices

At the time of the 1988 RFA, metal surface preparation and painting operations took place at buildings 903 and 905 as part of a corrosion control operation that served HAFB. The corrosion shop began operation in 1978. Sand blasting of metal parts (aluminum and steel) took place in Building 905 and was performed as a surface preparation step prior to painting which was done in Building 903. Residue which is a mixture of materials including the silica shot, metal, and old paint was staged outside of Buildings 903 and 905. Mounds of material can be seen staged on the south end of Buildings 903 and 905 in the 1996 aerial photograph of the area. However, personnel from that period that are familiar with the sand blasting operation could not be located to confirm that these mounds or piles were in fact residue from the sand blasting operation and were present during the site visit made as part of the RFA in 1988. Aerial photos of this area for the years 1987, 1988, and 1989 could not be located to confirm the presence of these piles during these earlier years.

Surface cleaning (Building 905) and painting operations (Building 903) for corrosion control continue today in these buildings, although process improvements have been made with regard to the sand blasting operation and residue management. For instance, the abrasive material currently in use is plastic beads instead of silica. The beads are separated from the abraded sediments allowing reuse of the beads and collection of the sediments for proper disposal as hazardous waste.

This site was visited on July 12, 2006. The residue from the sandblasting is currently drummed and labeled as hazardous waste. The exterior of both buildings were examined and it was noted that the sand piles that appeared in the 1996 aerial photo were removed and replaced with ornamental cobble stone. An area just south of Building 905, near a telephone pole, was observed to have black colored grit over a surface area of approximately 6 x 6 feet. This black material is similar to the description of the sandblasting debris described in the 1988 RFA.

Sandblasting residue containing paint chips and heavy metals may have been placed directly on the ground adjacent to the buildings. Aerial photographs, institutional knowledge, and the presence of a small remaining area of staining (near the telephone pole) indicate that stockpiling of this material may have occurred. Piles of this debris no longer exist at the site. The exact volume of material that was generated and perhaps placed in piles on the ground is unknown.

2.5.4 Rationale and Scope for Confirmatory Sampling

Institutional knowledge over past practices in these buildings, combined with the observation of dark sand-like material on the ground during the site visit and the review of aerial photographs suggest the potential for impact to the subsurface at this site. Most of the area surrounding both buildings has been landscaped with cobble stone which most likely required the excavation/scraping of the area. The confirmatory sampling will target two areas. One near a telephone pole south of Building 905 where a dark stained gritty area on the ground was observed and may represent the conditions identified in the 1988 RFA, and a second area south of Building 903 where piles of silica were observed staged in an aerial photograph dated 1996. These areas are shown on Figure 2-7.

Two soil borings will be installed in the locations shown on Figure 2-7 using DPT sampling equipment. The depth of the borings will be approximately 15 feet bgs or until groundwater is encountered. The borings will be continuously sampled. The samples will be field screened and one discrete sample from each boring exhibiting characteristics of potential contamination will be submitted for laboratory analysis. Staining and/or odor may also be used to select the samples for analysis. If the screening techniques do not indicate a clear selection for analysis the samples will be collected at the capillary fringe. The soil samples will be analyzed for TAL metals, TPH, SVOCs, and VOCs. A temporary groundwater sampling point will be installed in the completed boring at each location. A groundwater sample will be collected from the points or wells and submitted for laboratory analysis. Both groundwater samples will be analyzed for TAL metals, TPH, VOCs, SVOCs, and TDS.

2.6 SS-68, Asphalt Tank Spill Area

SWMU AOC-F is identified in the ERP as site SS-68, Asphalt Tank Spill Area. This site is listed on Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422).

2.6.1 Location

The 1988 RFA states that aboveground and below ground tanks that were previously removed were located to the northwest of Building 121. The December HAFB Environmental Restoration Program Site Status Summaries Report places the location as 200 feet northeast of Creosote Avenue, which is different from the location identified in the 1988 RFA. This location coincides with the current piles of asphalt that are gathered from road work across the Base and recycled. While the exact location is unknown, the most likely location of these tanks (if they ever existed) would have been at the location used to stockpile and recycle asphalt pavement. Detailed layouts of this site and its surroundings are included as Figures 2-8 (1996 aerial photograph) and 2-9 (2004 aerial photograph).

There was no evidence or signs of any kind of tank in this area noted during the site visit on July 10, 2006.

2.6.2 Records Searched

The records searched to obtain information on this spill include:

- Aerial photographs taken in 1984, 1996, and 2004
- *HAFB Environmental Restoration Program Site Status Summaries* (December, 2005)
- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report.* (Kearney, 1988)

2.6.3 Dates of Operation and Description of Past and Current Practices

Weathered asphalt removed from road improvement projects at HAFB has been crushed and reused since the 1980s. Typically, after it has been removed, the asphalt has been staged in an undeveloped area east of Creosote Avenue and north of the base enlisted personnel housing area. Normally the asphalt is staged in piles until it is reused. This has been standard practice since the early 1980s. An aboveground tank has not been observed in the aerial photographs of the area taken in 1984, 1996, and 2004. Further, asphalt tanks are typically heated to keep the material warm and flowable for use and that would make underground tanks unlikely for this kind of operation at HAFB. An interview with Mr. Darvin St. John of the 49th CES/CEV was conducted on July 13, 2006. Mr. St. John was responsible for documenting the removal of many USTs at HAFB in the 1990s and did not recall the presence of any kind of underground storage tank (UST) or AST in this particular area.

Despite that previously removed ASTs and USTs are mentioned in the 1988 RFA in connection with this site, no ASTs or USTs are identified within this area in Base records. Currently, 6 piles of asphalt are located approximately 700 feet south of Building 121. Aerial photographs from years 1996 and 2004 confirm the storage of asphalt in this area but do not confirm the

presence of any tanks. No releases of hazardous constituents have been documented related to this site.

2.6.4 Rationale for Justification for No Further Action (NFA)

A source of contamination cannot be tied to this location. After contacting personnel familiar with the presence and removal of USTs at HAFB, and searching the records at the HAFB Office of Real Property, there remains no evidence of USTs or ASTs at this site and there is no documentation of releases to the environment. Storage of asphalt for reuse is not considered a hazardous waste practice. If a tank was present at the site during the 1988 RFA, it could have been a portable tank for fueling equipment or some other type of portable unit for processing the asphalt. Therefore, there are no plans to conduct confirmatory sampling at this site and a petition for No Further Action will be pursued.

2.7 SS-69, Fighter Wing Flight Line Spill

SWMU AOC-I is identified in the ERP as site SS-69, Fighter Wing Flight Line Spill. This site is listed on Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422).

2.7.1 Location

The 1988 RFA identifies the site as the location of a surface spill of approximately of 275 gallons of trichloroethylene and 200 gallons of carbon tetrachloride that occurred generally in the area of the 49th Tactical Air Command Flight Line. The HAFB Environmental Restoration Program Site Status Summaries Report (HAFB, 2005) states that the spill occurred approximately 200 feet southwest of Building 868. The source of this information could not be verified. Both documents identify the same general area as the location of the spill.

2.7.2 Records Searched

The records that were searched to obtain information on this spill include:

- Aerial photographs of the F-117 flight line taken in 1984, 1996, and 2003
- *HAFB Environmental Restoration Program Site Status Summaries* (December, 2005)
- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report* (Kearney, 1988)

2.7.3 Dates of Operation and Description of Past and Current Practices

Building 868 has been in existence for approximately 25 years and has served as a maintenance hangar for both F-117s and F-15s. There have been upgrades over the years, primarily during the early 1990s which is when the transition to the F-117s from the F-15s occurred. The aerial

photographs of this period show a considerable addition to Building 868 and it tripled in length in approximately 1991. This can be seen in Figure 2-10.

A site visit was made on August 1, 2006. The flight line was examined with particular attention given to the suspected location of the spills (ie. 200 feet SW of Building 868). The entire area is covered with reinforced concrete since it serves as a taxi-way for heavy aircraft. There was no evidence of spills such as staining on concrete.

Presently, the use of solvents by the United States Air Force (USAF) is limited to parts cleaning (if at all) and for the most part the use of halogenated (i.e. TCE) and non-halogenated (i.e. acetone, toluene) solvents have been replaced with alternative chemicals as part of their pollution prevention programs.

The reported releases of trichloroethylene and carbon tetrachloride occurred over a hardened concrete surface (i.e. a flight line) approximately 12 inches thick that has low permeability. Visits were made to the HAFB Fire Department and to the Bio-Environmental organization to obtain any kind of record that would confirm the solvent spills but none was found, nor was there any personnel that recalled any spill in that area in the 1980s.

2.7.4 Rationale and Scope for Confirmatory Sampling

A spill of solvents onto the flight line was identified in the 1988 RFA. However, no visible evidence currently exists (such as staining, stressed vegetation, or discolored soil) at the site. Regardless, to provide documentation of current subsurface conditions at the site, three soil borings will be installed and sampled to determine conditions in the vicinity of the reported solvent spills.

The three borings will be placed in the locations shown on Figure 2-10 using DPT sampling equipment. The depth of the borings will be approximately 15 feet bgs or until groundwater is encountered. The borings will be continuously sampled. The samples will be field screened and one discrete sample from each boring exhibiting characteristics of potential contamination will be submitted for laboratory analysis. Staining and/or odor may also be used to select the samples for analysis. If the screening techniques do not indicate a clear selection for analysis the samples will be collected at the capillary fringe. The soil samples will be analyzed for TAL metals, TPH, SVOCs, and VOCs. A temporary groundwater sampling point will be installed in each of the completed borings and a groundwater sample will be collected from each point or well and submitted for laboratory analysis. The three samples will be analyzed for TAL metals, TPH, VOCs, SVOCs, and TDS.

2.8 RW-70, Building 18, Product Storage Tank

SWMU AOC-M is identified in the ERP as site RW-70, Building 18 Product Storage Tank. This site is listed on Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422).

2.8.1 Location

This UST has been included in the remediation activities conducted at ERP Site SS-17, SWMU AOC-Q (The Old BX Service Station). The RFA identifies this site as a gasoline leak from an underground gasoline storage tank that was located 50 feet northwest of Building 18. Building 18, along with the associated aboveground structures were demolished in 2003 and the contaminated soil in the vicinity of the SWMU AOC-M has been excavated (approximately 31,000 cubic yards) and removed. The extent of excavations in the area of SWMU AOC-M is shown on Figure 2-11.

2.8.2 Records Searched

The records that were searched to obtain information on this site include:

- Aerial photographs of the area taken in 1996 and 2004
- *HAFB Environmental Restoration Program Site Status Summaries* (December, 2005)
- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report* (Kearney, 1988)

2.8.3 Dates of Operation and Description of Past and Current Practices

The BX Service Station featured a gas station, convenience store, and a car wash and operated since the early 1950s. In 1981, gas leaks from the underground storage tanks were discovered and an investigation was initiated that led to the removal of five underground tanks in 1992 which were replaced with three aboveground tanks that were installed so that the BX Station could continue to operate. A new BX Station was built further north on First Street in 2000 and the original BX Station was taken out of service that same year so that the entire area could be remediated by excavating and removing for disposal the petroleum-contaminated soil underneath.

There are no operations at this location other than the ongoing soil excavation and removal activities associated with remediation of the petroleum-contaminated soil. All structures, tanks, and ancillary equipment associated with the former operation of the BX Station have been removed. This was confirmed during the site visit on July 10, 2006.

2.8.4 Justification for NFA

The soil, structures, and product storage tanks that make-up site RW-70 were completely removed during the excavation and removal activities that have taken place in the past two years to remediate the much larger SS-17 site. Site RW-70 was co-located within the larger SS-17 site. Because the source of contamination at site RW-70 has been completely removed, a petition of No Further Action will be pursued with the NMED. Documentation of the remediation of this site will be provided in the AOC-Q (SS-17) closure report.

2.9 TU-71, Leaking Underground Storage Tank

SWMU AOC-S is identified in the ERP as site TU-71, Leaking Underground Storage Tank. This site is listed on Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422).

2.9.1 Location

The 1988 RFA does not provide an exact location for the site. However, the HAFB Environmental Restoration Program Site Status Summaries Report (2005) locates the UST just north of Building 807. This site is located at the same facility as SWMU AOC-B (the Building 807 Test Cell Spill). Based upon the available information, both sites appear to be co-located. The site visit conducted on July 12, 2006, did not reveal any signs of an underground storage tank in this area.

2.9.2 Records Searched

The records that were searched to obtain information on this site include:

- Aerial photographs over several years (1972, 1979, 1996, and 2004)
- *HAFB Environmental Restoration Program Site Status Summaries* (December, 2005)
- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report* (Kearney, 1988)
- *Construction Engine Test Stand (Phase I) Drawings HO 283B-6 Sheet 2 out of 5* (1980)
- HAFB Real Property Records

2.9.3 Dates of Operation and Description of Past and Current Practices

The site was used to test engines from F-15 and F-4 fighter aircraft during the 1970s and 1980s. During the phase-in of the F-117s in the 1990s, this test cell area was abandoned and replaced with testing facilities suitable for the F-117 which are located approximately 300 yards southeast of the site. There is no available information regarding the presence of a UST at this site. The information reviewed during the records search for SS-65, that included construction drawings and records from the HAFB Real Property office, was useful during the records search of this site and confirmed that a leaking UST does not exist at the site.

2.9.4 Rationale and Scope for Confirmation Sampling

Based on the descriptions in the 1988 RFA Report for this site and site SS-65, it appears that these are very near to each other and possibly even co-located. Therefore, the confirmatory investigation for both sites will be combined. The records search was also combined. The

review of construction drawings for the trim pads and Building 807, as well as the search of records at the HAFB Real Property office did not indicate that a UST ever existed at this site.

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3 ADDITIONAL INVESTIGATION ACTIVITIES

The previous sections have summarized what little background information has been found on these sites based on the efforts undertaken to date to search HAFB records. After comparing the information that was recorded during the 1988 RFA with the newly obtained information, it was evident that a source of contamination does not exist at some of the sites and as a result, the proper justification will be made to petition the NMED for an NFA determination on SWMUs AOC-F and AOC-M (ERP sites SS-68 and RW-70). Additional investigations are necessary to confirm the presumed source areas for sites SS-65, SS-66, SS-67, SS-69, and TU-71. It should be noted that the investigation of TU-71 will be combined with the investigation of SS-65.

The purpose of this section is to describe the pre-investigation requirements (Section 3.1) as well as the requirements necessary to conduct and successfully conclude the scope of the confirmatory sampling at each site (Section 3.2).

3.1 Pre-investigation Requirements

Before site-specific activities can begin, there are several pre-investigation documents and approval requirements to be met, including Air Force Form (AF Fm) 332 approval, Base dig permit(s) with utility clearances, site security measures, and facility manager notification of the intended operations. Bhate will coordinate project requests for Base installation support services through the 49th CES/CEV. Pertinent to the start of activities, a pre-construction meeting and site walk-through will be conducted with the USACE Resident Engineer, HAFB personnel, and Bhate Site Manager, to inspect site-specific conditions for equipment access, equipment staging, and decontamination area(s), potential site hazards, and emergency evacuation routes. Also reviewed at this time will be project procedures in accordance with the schedule and planned activities.

3.1.1 AF Form 332

Prior to initiating the confirmatory sampling activities, a completed and approved AF Fm 332 will be obtained. This form authorizes construction work at HAFB and is required for the initiation of any construction work. This work order describes what activities will take place at the location.

3.1.2 Dig Permit/Utility Clearances

Prior to the submittal of the dig permit(s) (AF Fm 103), the drilling locations will be clearly delineated with marker flags, stakes, or paint, as appropriate to the surface material. Utility clearance approvals will be completed by the appropriate HAFB utility office (e.g., telephone, sewer, water, natural gas etc.). Upon receipt of the approved dig permit (AF Form 103) with the utility clearances, the Bhate Site Manager or other authorized project personnel will complete a site walk-through confirming the dig permit authorizations and make any required changes.

3.1.3 Site Security

Site security is concerned with safety at the site(s) during all drilling and sampling activities and will be addressed as outlined in the *Basewide Health and Safety Plan* (HASP) (Bhate, 2003b). At a minimum the exclusion zone at each site will be secured with caution tape, and traffic cones surrounding the perimeter of the site. The size of each exclusion zone will be determined by the size of the drilling and support equipment, and the prevailing site conditions. Open boreholes will not be left unattended without first securing the immediate area surrounding the borehole, and covering the opening so that it does not become a hazard.

3.2 Investigation Requirements

Field activities will be performed in accordance with the *Site-Specific Addendum to the Basewide Health and Safety Plan* (see Appendix E of this Work Plan), the *Quality Assurance Project Plan (QAPP) Addendum* (see Appendix F of this Work Plan), as well as other USACE mandated procedures for laboratories. The field work for these confirmatory sampling activities will be conducted in accordance with HAFB Standard Operating Procedures (SOPs) provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003a) and the *Bhate Standard Operating Procedures* (Bhate, 2002). These SOPs outline methodologies for soil boring advancement, soil sampling, soil sample description, groundwater well development and sampling, field screening, sample management, equipment decontamination, and chain-of-custody procedures. Sample nomenclature will follow the Environmental Restoration Program Information Management System (ERPIMS) format. The specific HAFB SOPs for this sampling event are listed below:

- HAFB SOP-1, Documentation, Sample Handling, Chain-of Custody, and Shipping
- HAFB SOP-2, Sampling Equipment Documentation
- HAFB SOP-3, Staking, Utility Clearance, and Permitting
- HAFB SOP-4, Direct Push Sampling for Soil and Groundwater
- HAFB SOP-5, Soil Sampling for Chemical Analysis
- HAFB SOP-6, Procedure for Field Screening of Volatile Organics
- HAFB SOP-7, Lithologic Description and Geotechnical Sampling
- HAFB SOP-8, Groundwater Sampling for Chemical Analysis
- HAFB SOP-9, Field Management of Investigation-Derived Waste
- HAFB SOP-10, Borehole Abandonment and Site Restoration

The following sections describe the procedures for DPT subsurface soil sampling, DPT groundwater sampling, and the analyses to be performed at the sites requiring confirmatory sampling.

3.2.1 Laboratory Analytical Methods

The analysis of soil and groundwater samples collected for this confirmatory sampling will follow the USEPA SW-846 protocol. The site-specific analytical requirements for soil and groundwater samples are summarized in Table 3-1. The soil and groundwater samples will be analyzed as follows:

- VOCs by USEPA Method 8260B (Soil and Groundwater)
- SVOCs by USEPA Method 8270C (Soil and Groundwater)
- TPH (Gasoline Range Organics [GRO], Diesel Range Organics [DRO], Oil Range Organics [ORO]) by modified USEPA Method 8015M (Soil and Groundwater)
- TAL Metals by USEPA Method 6010B/7470A/7471A (Soil and Groundwater)
- PCBs by USEPA Method 8082 (Soil and Groundwater)
- TDS by USEPA Method 160.1 (Groundwater only)

Samples selected for laboratory analysis will be labeled, handled, and prepared for shipment in accordance with HAFB SOP-1. The detection reporting limits for all analytical parameters and the quality assurance sampling requirements (trip blanks, duplicates, and matrix spike/matrix spike duplicates [MS/MSD]) are summarized in the QAPP Addendum. All samples for VOC analysis will require a trip blank. The samples will be placed on ice and shipped under strict chain-of-custody to Accutest Laboratories in Orlando, Florida. Residual soil from the soil sampling will be discarded in accordance with the waste management procedures established in Section 3.4 of this Work Plan, Investigation-Derived Waste (IDW) Management.

3.2.2 DPT Soil Sampling

Soil samples will be collected continuously from soil borings using DPT methodology in accordance with HAFB SOP No. 4. Each boring will be visually classified and lithology described in the field according to HAFB SOP No. 7 and the Unified Soil Classification System (USCS) (American Society for Testing and Materials [ASTM] D 2487-92 and ASTM D 2488-90). The specific locations of the borings may be modified based on site-specific (access, any observed or underground utilities, etc.) field conditions.

Soils will be field screened in accordance with HAFB SOP No. 6 using an organic vapor analyzer (OVA) with soil-headspace screening techniques at two foot intervals. Notation will also be made of any visual (discoloration) and/or aromatic observations that are indicative of potential contamination. The site-specific analytical requirements for subsurface discrete soil samples are summarized in Table 3-1.

A qualified surveyor will locate the DPT boreholes using a global positioning system (GPS). All horizontal coordinates will be referenced to the State Plane Coordinate System, New Mexico Central and surveyed to an accuracy of +/- 1.0 foot. Vertical elevations will be reference to North American Datum (NAD) 1983 coordinates.

3.2.3 DPT Groundwater Sampling

Each DPT soil borehole will be converted to a temporary groundwater sampling point by extending the probe to at least three feet below the water table. Groundwater will be collected for laboratory analysis directly from the aquifer after releasing the drive point and partially retracting the rods. Either a bailer or a peristaltic pump and Teflon tubing will be inserted through the drive rods and used to retrieve the sample. Low flow or low stress techniques will be used during purging activities for sampling to minimize the disturbance of the water column and generation of IDW. Procedures for DPT groundwater sampling are outlined in HAFB SOP-4. A single volume of the sampling device will be purged prior to sample collection (i.e., one volume of Teflon tubing or one bailer volume).

Due to the fine-grained, low permeability soil, the aquifer may not produce sufficient flow to immediately sample the groundwater. In the event that a DPT borehole location exhibits a very slow recharge or an insufficient volume of water for sampling, a temporary polyvinyl chloride (PVC) well will be left in place while additional borings at the site are completed. The temporary groundwater sampling point will be developed and sampled after sufficient recharge has occurred in accordance with Bhate SOP No. 10 (*Subsurface Water Investigation*) Subsections 3 and 4. If necessary, the turbidity of the water sample will be lowered by filtering the sample through a 0.45 micron filter. Following sampling, the well will be completely removed from the ground and the borehole will be sealed in accordance with HAFB SOP-10.

A total of 13 soil and 13 groundwater samples including one duplicate sample and one MS/MSD sample will be collected from the 13 DPT boreholes and will analyzed by an offsite laboratory as specified in Table 3-1. Every shipment of samples to the laboratory will include at least 1 trip blank for the VOC analysis only. On a daily basis, only 1 trip blank would be needed provided all samples analyzed for VOCs are packaged in the same sample cooler. Samples selected for laboratory analysis will be labeled, handled, and prepared for shipment in accordance with HAFB SOP-1.

3.3 Sample Identification System

Each environmental sample collected will be identified on the sample label and chain-of-custody (COC) records, regardless of type. Sample documentation, handling, and shipping will be in accordance with HAFB SOP-1. Sample collection information inclusive of the container type and quantity for the soil samples collected during the confirmatory sampling will be performed according to the QAPP Addendum. The field duplicate samples will appear in sequence with the regular samples. An example of the sample identification nomenclature for soil samples collected from DPT boreholes will be as follows:

SS65-DP01-5-a

Site alpha-numeric identifier: SS65 = Building 807 Test Cell Surface Spill

Sample type identifier: DP = direct push boring

Sequential direct push boring number: 01, 02, etc.

Ending depth of sample interval: 5

Reserved for quality assurance (QA) sample identifiers: a = field duplicate, TB = trip blank, MS = matrix spike, MSD = matrix spike duplicate

3.4 Investigation-Derived Waste Management

IDW will be managed and characterized according to HAFB SOP-9. Whenever possible, waste minimization techniques will be used to reduce the amount of IDW. The DPT drilling technique does not generate cuttings. Left over soil from the sample tubes will be screened with the OVA for the presence of organic vapors. If the soil is free of organic vapors, it will be spread on the ground surrounding the well. A level of 300 parts per million (ppm) on the OVA will be used to determine if the soil will be transported and placed in the FT-31 Landfarm at HAFB. Liquid wastes, such as decontamination rinses, are anticipated to be non-hazardous and as such, can be disposed of through the HAFB Wastewater Treatment Plant (WWTP). Personal protective equipment (PPE) and other site non-hazardous debris/waste shall be disposed of in standard trash receptacles.

3.4.1 General Decontamination Procedures

Small equipment, such as sampling tools, will be decontaminated in accordance with HAFB SOP-2. Heavy equipment such as the DPT rig will be decontaminated by steam cleaning at a temporary decontamination pad set up at the site. The containers and decontamination pad will be managed in a secure area and the decontamination water will be allowed to evaporate or discharged to the HAFB WWTP. Sediment remaining in the decontamination pad area after the water has either evaporated or been discharged to the WWTP, will be spread on the ground.

3.4.2 Personal Protective Equipment

Prior to disposal, used PPE, disposable items, and the decontamination pad liner will be rinsed clean with tap water and diluted detergent solution. Cleaned PPE and presumed clean, based upon non-contact with contaminated soils, water, or equipment, and other disposable clean items will be contained in trash bags and disposed of at the applicable onsite sanitary waste receptacle.

3.5 Site Restoration

Upon completion of the confirmatory sampling activities, the sites will be restored to their original condition. Sampling locations will have been backfilled or grouted to the surface. The sites will be canvassed for trash, debris, etc.

3.6 Decontamination Procedures

Small equipment, such as sampling tools, will be decontaminated in accordance with the *Basewide Quality Assurance Project Plan.* (Bhate, 2003a). Heavy equipment, such as the DPT rig, etc., will be decontaminated at a temporary decontamination pad set up at the site.

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4 PROJECT QUALITY ASSURANCE

The laboratory performing the chemical sample analysis will follow the *Basewide Quality Assurance Project Plan* (Bhate, 2003a) and the QAPP Addendum.

4.1 Standard Operating Procedures

Applicable SOPs for completing the confirmatory sampling activities are located in Appendix A of the *Basewide QAPP* (Bhate, 2003a).

4.2 Sample Identification

Each environmental sample will be identified on the sample label and COC records for each sample collected, regardless of type. Field duplicates will be paired with another field sample and will be classified as blind samples. The duplicate samples will appear in sequence with the regular samples. The identifier nomenclature will adhere to the procedures and guidelines established in the *Basewide QAPP*. Sample labeling will adhere to the format provided in the *Basewide QAPP*.

4.3 Project Documentation

The field operations documentation will provide consistent procedures and formats for documentation and management of field records and collected samples.

4.3.1 Sample Documentation

Sample documentation, identification, and tracking will adhere to the prescribed methods found in the *Basewide QAPP*. All sampling activities will include documentation of significant activities, potential environmental influences during sampling, field variances, and sample identification information. At a minimum, field logbooks will be utilized to record dates and times, sampling protocols, project numbers, and sampler's name. Daily Quality Assurance Reports will be completed and submitted weekly to the HAFB Project Manager. Other pertinent information will include COC numbers and air-bill tracking number. Chain-of-custody forms will be completed and included with each sample shipment; one COC per cooler.

At a minimum, the following sample collection information will be logged in the field book:

- Date and time
- Sample identification number
- Project number
- Sampler name
- Preservative (if any)

- Analysis
- Map or schematic of sampling location

If no map of sampling locations is available prior to sampling, a drawing of the site will be sketched on the left page of the field logbook to provide an illustration of all sampling points. Measured distances from sampling points to a fixed reference point will be recorded.

4.3.2 Field Logbook

Personnel will use only bound field logbooks for the maintenance of field records. The Project Manager will ensure that all field notes can be efficiently traced, filed, and retrieved. All entries will be recorded in indelible, waterproof ink. If errors are made, corrections will be made by crossing a single line through the error, correcting the information, and initialing and dating the correction. Entries will be made in the following format:

Documentation and reporting of events and activities will be made in chronological order on the right page of an open logbook. All entries will be dated and time of entry recorded. At the beginning of each day, the first two entries will be "personnel/contractors on site" and "weather". At the end of each day's entry, the personnel will draw a diagonal line originating from the bottom left corner of the page to the conclusion of the entry and sign along the line indicating the conclusion of the entry or the day's activity. Once completed, the field logbooks become accountable documents and will be maintained as part of the project files.

The following general requirements apply to field logbooks:

- The left page of the logbook will be used for auxiliary reporting such as sketches, tables, etc.
- The date will be recorded at the top of every page in the left-hand corner of the right page.
- The time of entry recordings will be in columnar form down the left-hand side of the right page.

4.3.3 Field Analytical Data

The field analytical data collected at the sites will include the field screening readings for selection of PPE, as well as field screening for headspace analysis. The breathing zone of the site will be screened for VOCs in the field at the time of sample collection utilizing an OVA. If a high humidity condition exists at the time of sample collecting, a flame-ionization detector (FID) is recommended since a photoionization detector (PID) is not a completely reliable screening instrument under these conditions. The field screening data will be recorded in the field logbook.

4.3.4 Data Reporting

Data obtained during confirmation sampling or field screening samples, will be reported according to the *Basewide QAPP*. In accordance with USACE EM200-1-6, the investigative

data is classified as definitive data. The data will be generated using rigorous, analyte-specific analytical methods where analyte identifiers and quantitations are confirmed and QA/Quality Control (QC) requirements have been satisfied. For this project, regular, field duplicate, and MS/MSD samples are to be collected concurrently. The data will meet the objectives of the project for level of accuracy and precision required, intended use of the data, analytical methods, time constraints, and allowable decision errors. An ERPIMS submittal will be required for this project.

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5 HEALTH AND SAFETY REQUIREMENTS

Project Health and Safety practices will adhere to the *Basewide Health and Safety Plan* (Bhate, December 2003b) and the Site Specific Addendum to the *Basewide HASP*, as included in Appendix E of this Work Plan. It is anticipated that no greater than modified level D PPE will be required to complete the confirmatory sampling activities. This includes: Occupational Safety and Health Administration (OSHA) approved safety shoes, American National Standards Institute (ANSI) approved safety glasses (Z87.1) and hard hat (Z89.1-1997: Type I), sleeved shirt and long pants, and as required, hearing protection, leather work gloves, and/or nitrile gloves during sampling.

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6 ORGANIZATION AND SCHEDULE

Mr. Jim Moore, Professional Geologist (P.G.), will serve as the Bhate Field Manager during the additional investigations and will also ensure that required project documents, permits, contractual agreements, and other program tasks are completed. Mr. John Hymer will provide on-site management of any sub-contractors for the project. The additional investigation activities are anticipated to begin in the Spring 2007 and will last approximately 2 weeks.

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ATTACHMENT 1

RESPONSE TO COMMENTS

RCRA Facility Assessment
Draft Confirmatory Sampling Work Plan
Multiple Sites
Holloman AFB, New Mexico
December 2006

Comment No.	Section	Page	Comment	Response
Reviewer	Judy Strawhecker USACE		Date of Comments: December 21, 2006	Date of Response: January 4, 2007
1	1		General comment: The goal of a RCRA Facility Assessment is to determine if there is evidence of a release that warrants further investigation and possible corrective action. "Confirmatory Sampling" implies an investigation is in a later phase of the RCRA process, such as the remedial action. I would suggest calling this document "RCRA Facility Assessment Sampling Work Plan".	The title of this document has been assigned according to a previous request from the NMED.
Reviewer	Adam Little USACE		Date of Comments: December 21, 2006	Date of Response: January 4, 2007
1	2.1.5		Insert language to clarify that the samples being collected for VOCs will be collected prior to field screening. Adjust other sections as necessary. Please also describe if you are planning on taking discrete or composite soil samples.	The field screening is a step that will be taken to identify the interval from which the single discrete sample will be collected for laboratory analysis and therefore, the sample will be collected after the screening from an undisturbed representative portion of the sample interval. Since little is known about the nature of the spills at these sites (i.e. chemicals that were spilled), this section of the document also describes the steps that will be taken in case the field screening is inconclusive regarding the selection of the soil sample targeted for lab analysis. Regarding the second part of the comment, the word "discrete" will be inserted in this section, and others, to assert that the soil sample(s) being collected are discrete and do not involve compositing.
2	2.8.3		The text states that there is ongoing soil excavation activities currently going on to clean up the petroleum-contaminated soil. Elaborate if any confirmation samples have been taken during the effort to demonstrate that the soil is being thoroughly excavated. In the following section, it has a justification for NFA; please insert language to better bring the two sections together. Initially, it seems that there is ongoing soil excavation, yet you want NFA. Again, it would be useful to know if confirmatory samples have been gathered to prove that the soil has been removed.	A key point in understanding this section of the work plan is that site RW-70 is completely included within the much larger site SS-17, and therefore, the argument for NFA on RW-70 is based on the fact that ALL soil in RW-70 has been excavated and removed down to groundwater as part of the remediation of the larger site SS-17 (See Figure 2-11 where the red outlines represent the area excavated in the corresponding year). There were no changes made to the text of this section as a response to this comment.

RCRA Facility Assessment
Draft Confirmatory Sampling Work Plan
Multiple Sites
Holloman AFB, New Mexico
December 2006

Comment No.	Section	Page	Comment	Response
3	3.2.3		In previous text, the temporary groundwater sampling points are called temporary monitoring wells. Stay consistent between the texts and call them all temporary groundwater sampling points as that sounds more appropriate based on their description. Since samples will be collected fairly close to when they are drilled, please address turbidity issues you might encounter when sampling for metals.	Agreed. All mention of temporary monitoring wells in the Work Plan will be changed to "temporary groundwater sampling points". Regarding the second part of the comment regarding turbidity concerns when sampling for metals, language will be added to this Section about following the procedures in BSOP 10 "*Subsurface Water Investigation*", specifically subsections 3 and 4 that describe monitoring well development and sampling.
4	3.4		Explain if there is a quantitative value that you will be using to decide if the IDW can be disposed of on the ground or not. It says that if "soil indicates the presence of organic vapors, the soil will be placed in the FT-31 Landfarm." Does this mean that any detection on the OVA is viable or is there a specific level? Better define the word "presence."	Agreed. A level of 300 ppm on the OVA will be used to determine if the soil is transported to the FT-31 Landfarm or not.
5	Figure 2-3		Please better line up the direct push labels on the figure for the proposed boring locations	The direct push labels such as DP01 next to their locations will be removed and in their place, the labels on the data boxes will be in red letters.
6	QAPP, Section 2		Please provide the self declaration form, QAM, and pertinent SOPs to the USACE Chemist.	A copy of these will accompany this comment response table at the time it is submitted to the USACE.

TABLE

Table 3-1. Analytical Methods and Number of Samples by Site
Confirmatory Sampling Work Plan
Multiple Sites
Holloman Air Force Base, New Mexico

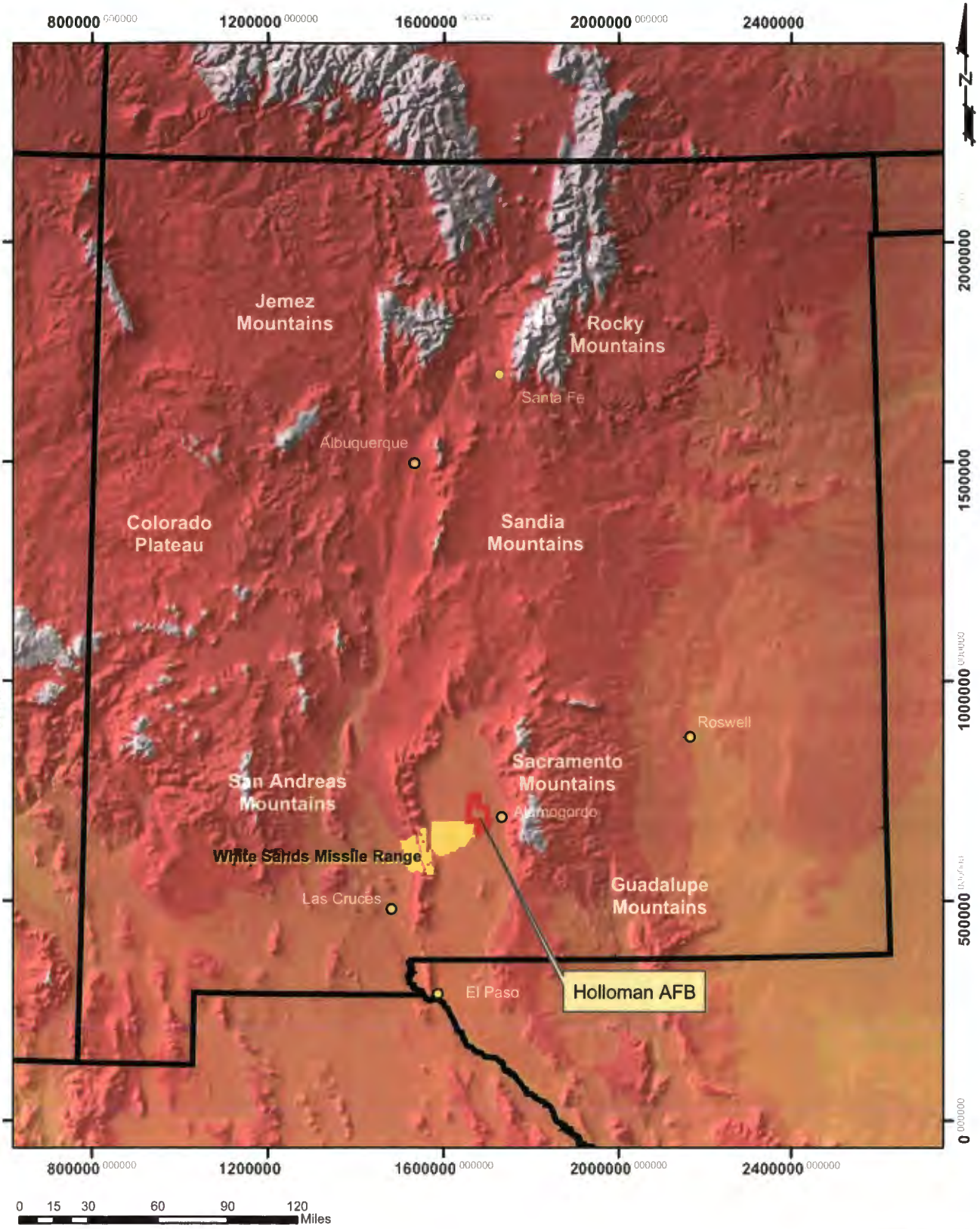
Site	Matrix	Analysis	Number of Boreholes/ Temporary MWs	Number of Field Samples	Equipment Blanks	Trip Blanks	Field Duplicates	MS/ MSD	Total
SS-72	Soil	VOCs by EPA Method 8260B	3/3	3	0	1	1	1	6
		SVOCs by EPA Method 8270C	3/3	3	0	0	1	1	5
	Water	VOCs by EPA Method 8260B	3/3	3	0	1	1	1	6
		TDS by EPA Method 160.1	3/3	3	0	0	1	1	5
SS-73	Soil	VOCs by EPA Method 8260B	3/3	3	0	1	1	1	6
		SVOCs by EPA Method 8270C	3/3	3	0	0	1	1	5
	Water	VOCs by EPA Method 8260B	3/3	3	0	1	1	1	6
		TDS by EPA Method 160.1	3/3	3	0	0	1	1	5
SS-65 and TU-71	Soil	VOCs by EPA Method 8260B	1/1	1	0	1	1	1	4
		SVOCs by EPA Method 8270C	1/1	1	0	0	1	1	3
		TAL Metals by EPA Method 6010B/7471A	1/1	1	0	0	1	1	3
		TPH by EPA Method 8015M	1/1	1	0	0	1	1	3
		PCBs by EPA Method 8082	1/1	1	0	0	1	1	3
	Water	VOCs by EPA Method 8260B	1/1	1	0	1	1	1	4
		SVOCs by EPA Method 8270C	1/1	1	0	0	1	1	3
		TAL Metals by EPA Method 6010B/7470A	1/1	1	0	0	1	1	3
		TPH by EPA Method 8015M	1/1	1	0	0	1	1	3
		PCBs by EPA Method 8082	1/1	1	0	0	1	1	3
		TDS by EPA Method 160.1	1/1	1	0	0	1	1	3
SS-66	Soil	VOCs by EPA Method 8260B	1/1	1	0	1	1	1	4
		SVOCs by EPA Method 8270C	1/1	1	0	0	1	1	3
		TAL Metals by EPA Method 6010B/7471A	1/1	1	0	0	1	1	3
		TPH by EPA Method 8015M	1/1	1	0	0	1	1	3
		PCBs by EPA Method 8082	1/1	1	0	0	1	1	3
	Water	VOCs by EPA Method 8260B	1/1	1	0	1	1	1	4
		SVOCs by EPA Method 8270C	1/1	1	0	0	1	1	3
		TAL Metals by EPA Method 6010B/7470A	1/1	1	0	0	1	1	3
		TPH by EPA Method 8015M	1/1	1	0	0	1	1	3
		PCBs by EPA Method 8082	1/1	1	0	0	1	1	3
		TDS by EPA Method 160.1	1/1	1	0	0	1	1	3

Table 3-1. Analytical Methods and Number of Samples by Site
Confirmatory Sampling Work Plan
Multiple Sites
Holloman Air Force Base, New Mexico

Site	Matrix	Analysis	Number of Boreholes/ Temporary MWs	Number of Field Samples	Equipment Blanks	Trip Blanks	Field Duplicates	MS/ MSD	Total
SS-67	Soil	VOCs by EPA Method 8260B	2/2	2	0	1	1	1	5
		SVOCs by EPA Method 8270C	2/2	2	0	0	1	1	4
		TAL Metals by EPA Method 6010B/7471A	2/2	2	0	0	1	1	4
		TPH by EPA Method 8015M	2/2	2	0	0	1	1	4
	Water	VOCs by EPA Method 8260B	2/2	2	0	1	1	1	5
		SVOCs by EPA Method 8270C	2/2	2	0	0	1	1	4
		TAL Metals by EPA Method 6010B/7470A	2/2	2	0	0	1	1	4
		TPH by EPA Method 8015M	2/2	2	0	0	1	1	4
		TDS by EPA Method 160.1	2/2	2	0	0	1	1	4
SS-69	Soil	VOCs by EPA Method 8260B	3/3	3	0	1	1	1	6
		SVOCs by EPA Method 8270C	3/3	3	0	0	1	1	5
		TAL Metals by EPA Method 6010B/7471A	3/3	3	0	0	1	1	5
		TPH by EPA Method 8015M	3/3	3	0	0	1	1	5
	Water	VOCs by EPA Method 8260B	3/3	3	0	1	1	1	6
		SVOCs by EPA Method 8270C	3/3	3	0	0	1	1	5
		TAL Metals by EPA Method 6010B/7470A	3/3	3	0	0	1	1	5
		TPH by EPA Method 8015M	3/3	3	0	0	1	1	5
		TDS by EPA Method 160.1	3/3	3	0	0	1	1	5

Notes:
MWs = Monitoring wells
MS/MSD = Matrix Spike/Matrix Spike Duplicate
VOCs = Volatile organic compounds
SVOCs = Semi-volatile organic compounds
EPA = Environmental Protection Agency
TDS = Total Dissolved Solids
TPH = Total Petroleum Hydrocarbons
PCBs = Polychlorinated biphenyls

FIGURES



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Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
9050360	Shown	11/20/06	SP/MRM
			DRAWING NO: Figure 1-1

Confirmatory Sampling
Work Plan
Holloman AFB, New Mexico

Figure 1-1

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SWMU LOCATION MAP

(Aerial photography taken in 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY:
9050360	AS SHOWN	11/20/06	MRM/CM
			DRAWING NO. Figure 2-1

Confirmatory Sampling
Work Plan
Holloman AFB, New Mexico

Figure 2-1

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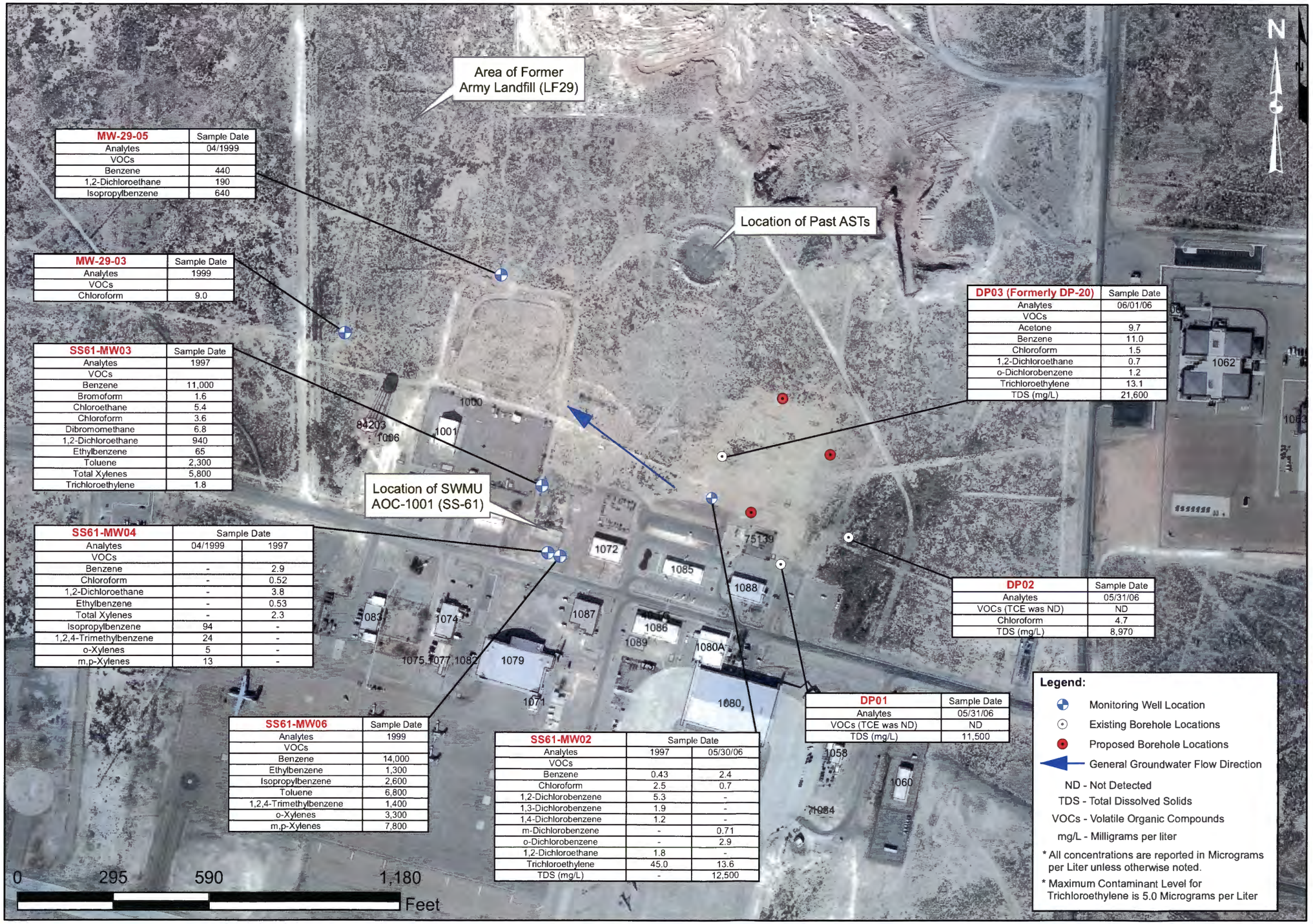
SS-72 Site Layout & Groundwater Concentration Map

(Aerial photography taken in 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY
9050360	AS SHOWN	11/20/06	MRM/CM
			DRAWING NO. Figure 2-2

Confirmatory Sampling
Work Plan
Holloman AFB, New Mexico

Figure 2-2



MW-29-05	Sample Date
Analytes	04/1999
VOCs	
Benzene	440
1,2-Dichloroethane	190
Isopropylbenzene	640

MW-29-03	Sample Date
Analytes	1999
VOCs	
Chloroform	9.0

SS61-MW03	Sample Date
Analytes	1997
VOCs	
Benzene	11,000
Bromoform	1.6
Chloroethane	5.4
Chloroform	3.6
Dibromomethane	6.8
1,2-Dichloroethane	940
Ethylbenzene	65
Toluene	2,300
Total Xylenes	5,800
Trichloroethylene	1.8

SS61-MW04	Sample Date	
Analytes	04/1999	1997
VOCs		
Benzene	-	2.9
Chloroform	-	0.52
1,2-Dichloroethane	-	3.8
Ethylbenzene	-	0.53
Total Xylenes	-	2.3
Isopropylbenzene	94	-
1,2,4-Trimethylbenzene	24	-
o-Xylenes	5	-
m,p-Xylenes	13	-

SS61-MW06	Sample Date
Analytes	1999
VOCs	
Benzene	14,000
Ethylbenzene	1,300
Isopropylbenzene	2,600
Toluene	6,800
1,2,4-Trimethylbenzene	1,400
o-Xylenes	3,300
m,p-Xylenes	7,800

SS61-MW02	Sample Date	
Analytes	1997	05/30/06
VOCs		
Benzene	0.43	2.4
Chloroform	2.5	0.7
1,2-Dichlorobenzene	5.3	-
1,3-Dichlorobenzene	1.9	-
1,4-Dichlorobenzene	1.2	-
m-Dichlorobenzene	-	0.71
o-Dichlorobenzene	-	2.9
1,2-Dichloroethane	1.8	-
Trichloroethylene	45.0	13.6
TDS (mg/L)	-	12,500

DP03 (Formerly DP-20)	Sample Date
Analytes	06/01/06
VOCs	
Acetone	9.7
Benzene	11.0
Chloroform	1.5
1,2-Dichloroethane	0.7
o-Dichlorobenzene	1.2
Trichloroethylene	13.1
TDS (mg/L)	21,600

DP02	Sample Date
Analytes	05/31/06
VOCs (TCE was ND)	ND
Chloroform	4.7
TDS (mg/L)	8,970

DP01	Sample Date
Analytes	05/31/06
VOCs (TCE was ND)	ND
TDS (mg/L)	11,500

Legend:

- Monitoring Well Location
- Existing Borehole Locations
- Proposed Borehole Locations
- General Groundwater Flow Direction

ND - Not Detected
TDS - Total Dissolved Solids
VOCs - Volatile Organic Compounds
mg/L - Milligrams per liter

* All concentrations are reported in Micrograms per Liter unless otherwise noted.
* Maximum Contaminant Level for Trichloroethylene is 5.0 Micrograms per Liter

Confirmatory Sampling
Work Plan
Holloman AFB, New Mexico

Figure 2-3

SS-73 Site Layout & Groundwater Concentration Map
(Aerial photography taken in 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY:	DRAWING NO:
9050360	AS SHOWN	8/23/06	MRM/CM	Figure 2-3

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0 25 50 100 Feet

Legend:

Proposed Borehole Location

General Groundwater Flow Direction

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SWMU AOC-B (SS-65), SWMU AOC-S (TU-71), and Building 807 Layout

(Aerial photography taken in 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY
9050360	AS SHOWN	08/10/06	MRM/CM
			DRAWING NO. Figure 2-4

Confirmatory Sampling Work Plan
Holloman AFB, New Mexico

Figure 2-4

0 12.5 25 50 Feet

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SWMU AOC-C (SS-66) and Building 835 Layout-1996

(Aerial photography taken in 1996)

PROJECT NO	SCALE	DATE	DRAWN BY: MRM/CM
9050360	AS SHOWN	08/10/06	DRAWING NO: Figure 2-5

Confirmatory Sampling Work Plan
Holloman AFB, New Mexico

Figure 2-5

0 25 50 100 Feet

Legend:

- Proposed Borehole Location
- General Groundwater Flow Direction

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SWMU AOC-C (SS-66)
Building 835 Layout-2004
(Aerial photography taken in 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY:
9050360	AS SHOWN	08/10/06	MRM/CM
			DRAWING NO: Figure 2-6

Confirmary Sampling
Work Plan
Holloman AFB, New Mexico

Figure 2-6

0 50 100 200 Feet

Legend:

- Proposed Borehole Location
- General Groundwater Flow Direction

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SWMU AOC-E (SS-67) Layout and Proposed Sampling Locations
(Aerial photography taken in 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY:
9050360	AS SHOWN	11/20/06	MRM/CM
			DRAWING NO: Figure 2-7

Confirmatory Sampling Work Plan
Holloman AFB, New Mexico

Figure 2-7

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SWMU AOC-F (SS-68) and Area Layout-1996 (Aerial photography taken in 1996)				Confirmatory Sampling Work Plan Holloman AFB, New Mexico
PROJ. NO. 9050360	SCALE AS SHOWN	DATE 11/20/06	DRAWN BY: MRM/CM DRAWING NO: Figure 2-8	Figure 2-8

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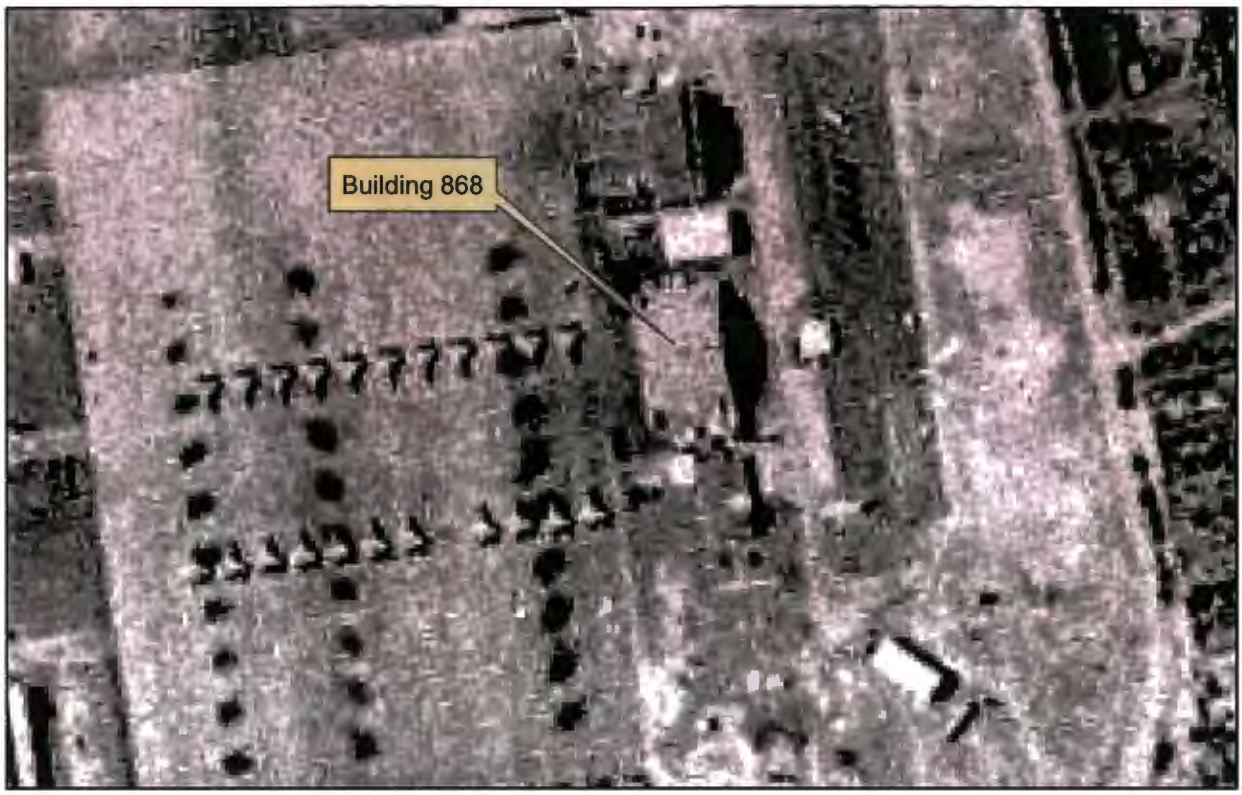
SWMU AOC-F (SS-68) and Area Layout-2004

(Aerial photography taken in 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY:
9050360	AS SHOWN	08/10/06	MRM/CM
			DRAWING NO: Figure 2-9

Confirmatory Sampling Work Plan
Holloman AFB, New Mexico

Figure 2-9



1984 Aerial Photography

1996 Aerial Photography

0 130 260 520 Feet

Legend

Proposed Borehole Location

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SWMU AOC-I (SS-69) and Building 868 Layout

PROJECT NO.	SCALE	DATE	DRAWN BY:
9050360	AS SHOWN	11/20/06	MRM
			DRAWING NO: Figure 2-10

Confirmatory Sampling Work Plan Holloman AFB, New Mexico

Figure 2-10

0 75 150 300 Feet

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SWMU AOC-M (RW-70) Excavated Areas Around Building 18

(Aerial photography taken in 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY:
9050360	AS SHOWN	11/20/06	MRM/CM
			DRAWING NO: Figure 2-11

Confirmatory Sampling Work Plan
Holloman AFB, New Mexico

Figure 2-11

APPENDIX A

SCOPE OF SERVICES FOR SI – PROJECT # KWRD20067081, NOVEMBER 8, 2005

OMAHA DISTRICT

U.S. ARMY CORPS OF ENGINEERS

SCOPE OF SERVICES

FOR

SI --Project # KWRD20067081

AT

HOLLOMAN AIR FORCE BASE, FLORIDA

November 08, 2005

Environmental Remediation Services

Contract No. DACA87-02-D-0003

Delivery Order TBD

SCOPE OF SERVICES

FOR

Preliminary Assessment/Site Inspection (PASI)–Project # KWRD20067081

AT

HOLLOMAN AIR FORCE BASE, NEW MEXICO

1 Objective

The objective of this work effort is to determine and evaluate the presence and extent of chemical contamination at multiple locations (see Site Specific Scope of Services. The word "contamination" includes chemical contamination of the groundwater, surface water, sediments, or soils with contaminants specified by regulatory criteria. The Contractor must perform all necessary travel, professional analysis, and work required to accomplish the work in this Scope of Services (SOSs) and prepare the reports addressing site conditions at Holloman AFB, NM. The work must be conducted in an environmentally acceptable manner conforming to federal, state, and local regulations. This work is detailed in the following Scope of Services.

1.1. This scope is written in terms of the general performance requirements and objectives, and is not intended to describe how the work is to be accomplished. The contractor's methods of accomplishment shall be proposed in the respective work plans, which are to be reviewed for approval by USACE, regulatory, and USAF personnel. Applicable laws, policies, and guidance shall be incorporated into the work methodologies, and followed by the contractor in work execution.

1.1.1 Performance Incentives

1.1.1.1 Target Costs. The contractor and the Government shall establish target costs for each of the projects identified below. The contractor shall propose a level of effort for each site that will fulfill the requirements identified for each phase of work at each location. Should the contractor's costs for these tasks be completed below the targeted cost, the contractor will be awarded additional fee in the amount of 0.5 percent of the total actual costs.

1.1.1.2 Schedule. The contractor shall negotiate an agreed upon schedule with the Corps and the Air Force for performing the work identified within. For each month that the work for the overall delivery order is performed ahead of the negotiated schedule the contractor will be awarded 0.25 percent fee above the negotiated fee amount.

1.1.1.3 The incentive fee shall be composed of two parts, the basic fee and the incentive fee(s). In any case, the maximum (combined) fee obtained shall never exceed 9%.

1.2 <u>All work performed on these sites must be done using the EPA TRIAD approach as described on the EPA web site http://www.epa.gov/tio/char.htm.</u>

Introduction and Site Background

The scope of services provided is based on the use of the US Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation Office (OSRTI) Triad approach. The Triad approach emphasizes the use of systematic planning, dynamic work strategies, and real-time measurement technologies to achieve closure at sites in as few mobilizations as possible. The Triad approach relies on sampling and analytical methods that generate a high density of information in real-time so as to manage decision uncertainty and identify and manage risks associated with environmental contaminants that may be present at hazardous waste sites.

The contractor shall utilize existing information on the sites

Work Element 1.0 – Systematic Planning Support

Under this work element, the contractor shall compile available information and prepare a preliminary conceptual site model (CSM) for each site(s) under investigation. In addition, the contractor shall use background information and the preliminary CSM to prepare a conceptual outline for the application of the Triad to investigate the site(s), and to support discussions amongst project stakeholders during systematic planning meetings. Under the Triad approach, the preliminary CSM is used to capture what is known about the site and help speculate what needs to be known, i.e., identify suspect contaminants and preferential pathways that warrant investigation, as well as the critical decisions to be made regarding reuse of the site. Based on this information, the contractor shall begin to evaluate potential remedies or mitigation strategies that will expedite site closure and prepare the property for reuse. The contractor shall also conduct reconnaissance of the areas of interest, and evaluate the geology, hydrogeology, potential receptors, and physical geography of the sites. Chemicals of potential concern should be evaluated to identify appropriate compounds that may be monitored (as indicator compounds) in a real-time fashion to support site decision-making. Based on the intended use of this real-time data, the contractor shall recommend the need for and/or potential procedures for a demonstration of methods applicability (DMA) of the real-time measurement technologies proposed. Following its development, the project contractor shall present the preliminary conceptual site model(s) and proposed Triad conceptual outline to the Air Force and Army Corps of Engineers before providing to the regulators and project stakeholders to aid in reaching consensus on the scope and direction of the work effort.

The contractor shall participate in two strategic planning meetings, first with the Air Force and Corps of Engineers and then with the regulators and other stakeholders, as well as supporting

follow-on teleconferences as necessary to resolve discussion topics or technical issues. During systematic planning meetings, the contractor shall work with the project decision-makers to identify potential applicable regulatory standards, other stakeholders, reuse alternatives, risk exposure scenarios, risk assessment protocols, potential remedies, mitigation strategies, and other information necessary to develop a dynamic work strategy and sequence of activities for inclusion into the Triad conceptual outline. This shall incorporate any currently scheduled activities at the sites (such as demolition and construction) as appropriate to minimize mobilizations and build efficiency. All proposed models and outlines shall be modified during and after the systematic planning meetings based on input from the larger stakeholder group. This proactive approach is designed to gain regulator acceptance and cooperation early in the process and limit review and comment once the planning documents are prepared.

Work Element 2.0 – Work Plan Preparation

Following the systematic planning process and once Air Force, Corps of Engineers, and the Regulators acceptance has been obtained, appropriate documentation shall be prepared, i.e., such as a work plan, sampling and analysis plan (field sampling plan and quality assurance project plan), and site health and safety plan. These plans shall describe the Triad-based approach to be applied, including data quality objectives, the dynamic work strategy, specific technologies to be implemented, decision logic, the real-time measurement methods, and data management and communication strategies that will be used. Additional plans may be required by the government and can be prepared at additional cost, depending on the nature and size of the document(s) requested. Milestone verification shall be outlined within a government quality assurance surveillance plan (QASP)

Work Element 3.0 – Implementation of the PA/SI

A broad range of soil and groundwater evaluation techniques may be evaluated for use for this project. The contractor shall implement the SI field investigation as described in the planning documents discussed in Work Element 2.0.

Work Element 4.0 **SI Report Preparation**

The contractor shall prepare a SI report for each of the site(s). The reports shall include work products to communicate the results of the investigations, including potential risks posed by each site. Risk screening/assessments shall be included if warranted, and the level of risk assessment (screening versus baseline) shall be determined based on the lead regulatory agency guidance the degree of contamination found. The work products will be designed to clearly demonstrate the completeness of the investigation and potential threats associated with any contamination found at the sites. Internal Draft reports will be submitted to the Air Force and their Service Agency. After addressing the comments, the Draft and Final versions of each report will be prepared and submitted to the regulators for their review and concurrence.

2 Work effort

2.1 The work effort involves the following.

The general scope of work to be performed in this delivery order includes investigative phases at multiple locations. Further detail will be provided later in the scope.

2.2 Work Allocation Document (WAD) Breakdown.

This delivery order will be separated into (3) work allocation documents (WADs). Each work area under this delivery order has two WADs associated with it. The first is for the actual performance of work and the second is for the fee associated with that service.

1. PA/SI at Multiple sites
2. Fee associated with WAD 1 - Cost plus incentive fee
3. Incentive Fee

3 Geology, chemistry, and health & safety requirements

All field and laboratory activities associated with the installation and testing of soils and ground water must be sampled, tested, and reported in accordance with the site specific Geology, Chemistry, and Health & Safety Requirements previously provided.

4 Plan and Submittal Requirements/Approvals.

The Contractor, upon receiving the Notice to Proceed, must prepare the following plans. All reports and plans must satisfy the corrective action requirements of the HSWA portion of the RCRA permit and contain a declaration stating so. All plans may be reviewed by the appropriate technical staff and approval must be obtained from the U.S. Army Corps of Engineers, Omaha District, Project Manager (CENWO-PM) prior to commencement of that work effort.

4.1 Work Plans, Internal Draft, Draft and Final.

The Contractor must develop a site-specific work plan for fieldwork and data analysis or assessment work for each site.

4.2 Site Safety and Health Plan Addendum, Internal Draft, Draft and Final.

The Contractor must write a site-specific addendum to the Basewide Site Safety and Health Plan.

5 Reports. The Contractor must develop the following reports:

5.1 Daily Quality Control Reports (A-E DQCR).

During the field investigation activities, the Contractor will provide DQCRs to the CENWO-PM and the Holloman ERP Manager. These reports must be faxed to the CENWO-PM on a daily basis. Should problems arise, the Contractor must notify the CENWO-PM immediately. The DQCR must be prepared in accordance with the instructions given in General Chemistry Scope,

paragraph 5.2.1.

5.2 Quality Control Summary Report (QCSR).

The QCSR is a report submitted by the Contractor at the conclusion of the investigation phase and must be submitted as part of the respective Report. The QCSR must be prepared in accordance with the instructions given in General Chemistry Scope, paragraph 5.2.2 and included as an appendix to the respective Report.

5.3 Internal Draft, Draft and Final Reports.

The Draft Reports must describe the site investigation, analytical results, and assessment extent, effects of contamination, alternatives contamination removed, weight tickets, and disposal sampling.

5.4 Final Reports.

The Final Report is Draft Report with "accepted" review comments and responses incorporated.

5.5 Environmental Resources Program Information Management System.

All field characterization data must be submitted in electronic format to meet the ERPIMS requirements as specified in the general Chemistry Scope of services.

6 Project Engineer/Project Manager

The Contractor must assign an employee in his organization who must be known as the Project Engineer or Technical Manager. This person must oversee the coordination of the entire project, administer all instructions from the CENWO-PM, and obtain answers to all questions from the CENWO-PM during and after the work. The Project Engineer/Project Manager will also be a full member of the Holloman AFB Partnering Team.

7 General

7.1 Travel and meetings

The Contractor must perform the following necessary travel as part of this delivery order.

7.1.1 Miscellaneous travel and Partnering Meetings.

The contractor must perform all travel related to fieldwork and such travel must be shown in the cost proposal. In addition, the contractor Project Engineer/Technical Manager must attend Partnering Meetings that will occur periodically over the life of the contract. For estimating purposes, assume attendance at 10 meetings over a 2-year period. Each meeting is estimated to 2.5 days in length with .5 days travel on the front and back of each meeting.

7.2 Progress review and technical adequacy

At appropriate times, representatives of the Contracting Officer may review the progress and technical adequacy of the investigations. Such review will not relieve the Contractor from performing all contract requirements.

7.3 Project schedule

The Contractor must submit a project schedule outline along with submission of the cost proposal.

7.4 Progress reports

The Contractor must submit progress reports with each request for payment. The progress reports must indicate work performed, costs, and problems incurred during the payment period. The Contractor, under this contract, must interpose no objection or restriction to the Contracting Officer's designation of another Contractor for reviewing the adequacy and correctness of the work performed under this contract. The Progress Report must show the estimated and actual performance of this project on a project-tracking chart that illustrates the funds expended and the work completed for each site along with the estimated cost at completion. Prior to the technical/partnering meetings, the Contractor will also provide an update on the status for each site in the format requested by the Range such as presenting visual aids, Gantt charts, and updated site summary sheets for each site.

7.5 Conference Notes and Confirmation Notices

7.5.1 Conference Notes

The Contractor must be responsible for taking notes and preparing the reports for all conferences. Conference reports must be prepared from typed notes and furnished to the AF PM and USACE-PM within 5 days of the conference for concurrence prior to distribution. The report must be distributed to all attendee and include the following at a minimum:

- The date and place the conference was held;
- List of attendees, including names, organizations, and telephone numbers;
- Written comments presented by attendees attached to each report with the conference action noted.

Conference action must be "A" for an Approved comment, "D" for a Disapproved comment, "W" for a comment that has been Withdrawn, and "E" for a comment that has an Exception noted. Narrative responses must be provided with the Conference Notes for all but Approved comments.

7.5.2 Confirmation Notices

The Contractor must be required to provide a record of <u>all</u> discussions, verbal directions, telephone conversations, etc., between USACE and the Contractor and/or his representatives on matters related to this SOS. These records must be numbered sequentially entitled "Confirmation Notices." Confirmation notices must fully identify personnel who participated, the subject discussed, and any conclusions reached or decisions made. The Contractor must forward a reproducible copy of the confirmation notices to the Contracting Officer, or his representative, within five working days. USACE will distribute confirmation notices as necessary.

7.6 Submittals and reviews

7.6.1 Reports

Reports presenting data, analyses, and recommendations must be prepared in a standard format using effective technical writing. Reports submitted for public comment must be prepared in a visually appealing format using reader-oriented writing style and natural expression (see www.plainlanguage.gov). All site drawings must be of engineering quality with sufficient detail and appropriate scale to show interrelationships among major features on the site map (i.e., north arrows, keys, scales, etc.). When drawings are required, data may be combined to reduce the number of drawings. The report must consist of 8 - 1/2" by 11", or 11" by 17" with pages folded to 8 - 1/2" by 11". A decimal paragraphing system must be used. The report covers must be durable binders that hold pages firmly while allowing easy removal, addition, or replacement. The report cover, spine, and title page must identify the report title, the contract number, the Project Number, the name of the installation, the site name, and the date. All final submittals must be signed and sealed by a registered Professional Engineer and/or Professional Geologist registered in the State of Florida for the applicable sections reviewed.

7.6.2 Submittals

Contract submittals must be furnished to the appropriate parties; in the numbers identified by the USACE-PM. Submittals being furnished for review must be mailed via overnight carrier.

7.6.3 Reviews

All reports are subject to technical review by USACE, federal, state, and local regulatory agencies, and AF ERP personnel. The Contractor must incorporate review comments and responses and resubmit documents for approval.

7.6.4 Revisions

The initial document submittals must be numbered Revision 0. Subsequent revisions must be numbered sequentially.

7.7 Special considerations

7.7.1 USACE property

All materials gathered and developed in the performance of this work must be the property of US Government and must not be used or distributed by the Contractor without specific permission from the Contracting Officer.

7.7.2 Public affairs

The Contractor must not make available to the news media or publicly disclose any data generated or reviewed under this contract unless instructed to do so by the USACE-PM or the Range Environmental Coordinator. When approached by the news media, or any unknown personnel, the Contractor must refer them to the USACE-PM or the Range Environmental Coordinator for response.

7.7.3 Site Clean Up

The Contractor must, at all times, keep the project sites, including storage areas, free from accumulation of waste materials or rubbish. Prior to completion of the work, the Contractor must remove from the site all tools, equipment, and materials, which are not the property of the Government. Upon completion of the fieldwork, the Contractor must leave the work premises in a clean, neat, workmanlike condition. The Contractor must properly dispose of excess material (samples, sampling equipment, PPE, etc.). Non-dedicated sampling equipment must be decontaminated and properly removed form the site.

7.8 Government-furnished documents

The following documents are available to the Contractor upon request.

- Engineer Manual (EM) 385-1-1, Safety and Health Requirements Manual, EM 385-1-1, dated 3 September 1996
- Engineer Regulation (ER) 1110-1-263, Engineering and Design, Chemical Quality Management for Hazardous Waste Remedial Activities
- AE Instruction Manual

7.9 Reference documents

- 42 U.S.C. 6991 (c), Resource Conservation and Recovery Act (RCRA)
- 42 U.S.C. 9601 (14), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- AE Guidance for Developing AE Quality Management Procedures for SITE Investigation Activities, U.S. Army Corps of Engineers, Omaha District, Environmental Branch
- AFI 32-7020, The Environmental Restoration Program

Site Specific Scope of Services for the Following Sites

3. PURPOSE: A Preliminary Assessment is required to determine location and extend of the potential chemicals of concern that might have been released at the following sites and Areas of Concern (AOC):

SS-65	Building 807 Test Cell Surface Spill
SS-66	Building 835
SS-67	Building 903-909 Sandblast Residue
SS-68	Asphalt Tank Spill Area
SS-69	Fighter Wing Flight Line Spill
RW-70	Building 18, Product Storage Tank
TU-71	Leaking Underground Storage Tank
AOC-72	Building 838 Groundwater TCE Plume
AOC-73	Building 1088 Groundwater TCE Plume

4. GENERAL SCOPE:
A PA will be conducted at each site and AOC. All available information will be gathered for each site. The search will include but is not limited to a review of Base records, historic aerial photos and if available discussions with past personnel with knowledge of the area. A thorough records search and site inspection is required to ensure compliance with CERCLA and the Part B RCRA Permit. In many cases, historical information from other SWMUs located in close proximity to each site will be used to further assess the nature of operations at the AOC of interest. If the site is an alias for a previously identified and investigated SWMU, all supporting documentation regarding that position will be compiled into a report for submittal to the regulatory agency along with a request for Site Closeout.

If a site requires a SI, a work plan will be prepared to address the sampling strategy and rationale. The work plan and scope for each site will be based upon the Conceptual Site Model (CSM). The model will identify the necessary data to characterize the site and identify the appropriate remedial alternative (if necessary). The SI work plan will be similar to previous plans for other sites located at HAFB.

The contractor will provide to HQ ACC and the Remedial Project Manager (RPM) through the Service Center, monthly project tracking charts to evaluate the estimated and the actual performance of this project. Final copies of documents will be provided to the base in both electronic and bound hard copy format.

5. PBC ___ F2P___ TRIAD__X__
The Triad approach will be used during the entire course of this project. The Triad systematic approach, especially the buy-in by the NMED, will be used to develop the CSM. The use of the CSM approach is invaluable during this effort because of the limited amount of available information for these sites. The CSM will include trigger criteria for the NMED and all parties to evaluate for determining if a area can receive Site Closeout status without undergoing a SI. In addition, the CSM will be used to

develop a tailored investigation for each area, thereby eliminating unnecessary sample collection and analysis.

6. BACKGROUND:

6.1. SS-65 is a suspected surface spill of petroleum hydrocarbons located approximately 25 feet north of Building 807 Test Cell. Information regarding this site is limited. The US EPA identified the site in the 1988 RCRA Facility Assessment (RFA). The RFA identified the site as a fuel-stained area of soil near Building 807. The RFA states that a suspected release of hazardous constituents to soil was evident during the visual site inspection (VSI). In February 2004, the NMED issued the Base a revised RCRA Part B Permit requiring identification of this site and determination of whether corrective action and/or investigation are required.

6.2. SS-66 is a suspected surface spill (potentially petroleum hydrocarbons) located 65 feet west of the southwest corner of Building 835. Information regarding this site is limited. The US EPA identified the site in the 1988 RFA. The RFA identified the site as a surface spill but not specifically a fuel spill. The RFA states that a suspected release of hazardous constituents to soil was evident during the VSI. In February 2004, the NMED issued the Base a revised RCRA Part B Permit requiring identification of this site and determination of whether corrective action and/or investigation are required.

6.3. SS-67 is a suspected spill or a pile of sand blasting residuals located between Buildings 903 and 909. SS-67 is approximately 180 feet west of Building 903 and 110 feet east of Building 909. Information regarding this site is limited. The US EPA identified the site in the 1988 RFA. The RFA identified the site as a pile of sandblast residue between Buildings 903 and 909. The RFA states that a suspected release of hazardous constituents to soil was evident during a VSI. In February 2004, the NMED issued the Base a revised RCRA Part B Permit requiring identification of this site and determination of whether corrective action and/or investigation are required.

6.4. SS-68 is the suspected Asphalt Tank Spill Area. The site is located approximately 400 feet southwest of the electrical substation and 200 feet northeast of Creosote Avenue. Information regarding this site is limited. The US EPA identified the site in the 1988 RFA. The RFA identified the site as an asphalt tank area with spills. The RFA states that a suspected release of hazardous constituents was evident during the VSI. In February 2004, the NMED issued the Base a revised RCRA Part B Permit requiring identification of this site and determination of whether corrective action and/or investigation are required.

6.5. SS-69 is the Fighter Wing Flightline suspected spill area. The site is located approximately 200 feet southwest of Building 868. The exact location of this site is still to be determined. Information regarding this site is limited. The US EPA identified the site in the 1988 RFA. The information available in the RFA identified the site as a

suspected fuel-stained area of soil. The RFA states that a suspected release of hazardous constituents to soil was evident during the VSI. In February 2004, the NMED issued the Base a revised RCRA Part B Permit requiring identification of this site and determination of whether corrective action and/or investigation are required.

6.6. RW-70 is a suspected leak from a product storage tank located less than 50 feet from the northwest side of Building 18. Information regarding this site is limited. The US EPA identified the site in the 1988 RFA. The RFA identified the site as a suspected leak from a product tank in Building 18. The RFA states that a suspected release of hazardous constituents was evident during the VSI. In February 2004, the NMED issued the Base a revised RCRA Part B Permit requiring identification of this site and determination of whether corrective action and/or investigation are required.

6.7. TU-71 is a suspected leaking underground storage tank. The site is immediately north of Building 807. Information regarding this site is limited. The US EPA identified the site in the 1988 RFA. The RFA identified the site as a suspected fuel-stained area of soil near Building 807. The RFA states that further investigation is warranted at this site. In February 2004, the NMED issued the Base a revised RCRA Part B Permit requiring identification of this site and determination of whether corrective action and/or investigation are required.

6.8. AOC-72 Building 838 (up gradient of site LF-21) is a groundwater plume containing trichloroethene (TCE) with a maximum concentration 20 µg/L at LF-21. The site is located between site LF-21 and Building 838. No obvious physical features or operations can be attributed to this plume. NMED through correspondence with the Base (August 2004) has ordered an investigation of the TCE groundwater plume which the NMED has determined is not be part of the groundwater contamination identified at LF-21. A PA will be performed to determine nature and extent of the TCE up-gradient of LF-21.

6.9. AOC-73 Building 1088 (adjacent to site SS-61) is a groundwater plume containing TCE identified while investigating the aviation gasoline plume associated with site SS-61. The TCE has been identified in at least 4 sample locations in close proximity of Building 1088 with a maximum TCE concentration in groundwater of 56 µg/L (at location DP15). This TCE plume has been determined by NMED to not be part of the groundwater contamination identified at SS-61.

APPENDIX B

SUMMARY OF GROUNDWATER MONITORING RESULTS FOR SS-72

Summary of Analytical Results from the 1995, 1997, 1999, 2001, 2003, and 2005 Long-Term Monitoring Programs at LF-21

Well Number	MW-21-01 [5]						MW-21-02					
Sampling Date	Aug-95	Sep-97	Sep-99	Sep-01	Apr-03	Dec-05	Aug-95	Sep-97	Sep-99	Sep-01	Apr-03	Dec-05
VOCs[1] (µg/L)												
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5 J
Chloroform	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	NA	0.53 J	ND	ND	ND	ND	NA	ND
Methylene chloride	ND	5.1 UB	<3	NA	NA	ND	ND	5 UB	<3	NA	NA	ND
Trichloroethylene	ND	5.4	11	13	15	13.3	ND	ND	<3	<5	<1	ND
Metals[2] (µg/L)												
Arsenic	ND	ND	16.2 B (J)	11.8 (J)	21.2	11.0	ND	ND	13.0 B (J)	7.2 B (J)	<100	14.8
Barium	ND	17	18.6 B (J)	NA	15.7	17.7 J	ND	40	32.1 B (J)	NA	19.5 J	41.9 J
Cadmium	ND	ND	<0.3	NA	NA	0.60 U	ND	ND	0.3 B	NA	NA	0.75 J
Calcium	NA	NA	NA	NA	NA	838,000	NA	NA	NA	NA	NA	1,780,000
Chromium	ND	ND	9.3 B (J)	<20	NA	0.50 U	ND	ND	<0.6	<20	NA	0.50 U
Cobalt	NA	NA	NA	NA	NA	1.0 J	NA	NA	NA	NA	NA	5.8 J
Iron	ND	ND	<21	<1000	<200	3,800 U	ND	ND	<21	<1,000	<200	3,800 U
Magnesium	NA	NA	NA	NA	NA	718,000	NA	NA	NA	NA	NA	2,010,000
Manganese	ND	ND	2.1 B (J)	139 (J)	12.3	8.0 J	ND	ND	0.6 B (J)	<10 (UJ)	<100	**789**
Nickel	NA	NA	NA	NA	NA	1.1 U	NA	NA	NA	NA	NA	1.8 J
Potassium	NA	NA	NA	NA	NA	62,000	NA	NA	NA	NA	NA	151,000
Selenium	ND	ND	6.2 B (J)	NA	<10	96 U	ND	ND	11.3 B (J)	NA	<100	240 U
Sodium	NA	NA	NA	NA	NA	1,740,000	NA	NA	NA	NA	NA	5,080,000
Thallium	NA	NA	NA	NA	NA	7.1 J	NA	NA	NA	NA	NA	10.8
Vanadium	NA	NA	NA	NA	NA	51.4	NA	NA	NA	NA	NA	24.7 J
Zinc	NA	NA	NA	NA	NA	11.6 J	NA	NA	NA	NA	NA	3.4 J
Organochlorine Pesticides[3] (µg/L)												
All	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND
Chlorinated Herbicides[4] (µg/L)												
All	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND
Filterable Residue (mg/L)												
TDS[6]	NA	NA	NA	NA	NA	**11,300**	NA	NA	NA	NA	NA	**29,700**

Notes:

[1] Unless otherwise reported, no VOCs were detected using EPA Method 8260B.
(EPA Method 8260A was used to analyze for VOCs in the 1995 and 1997 programs.)

[2] Unless otherwise reported, no metals were detected using EPA Methods 6010B & 7470A.
(EPA Methods 6010 & 7000 were used to analyze for metals in the 1995 and 1997 programs.)

[3] Unless otherwise reported, no organochlorine pesticides were detected using EPA Method 8081A.
(EPA Method 8080A was used to analyze for organochlorine pesticides in the 1995 and 1997 programs.)

[4] Unless otherwise reported, no chlorinated herbicides were detected using EPA Method 8151.
(EPA Method 8150B was used to analyze for chlorinated herbicides in the 1995 and 1997 programs.)

[5] Upgradient monitoring well

[6] Total Dissolved Solids (TDS) were analyzed using EPA Method 160.1

CRDL - Contract-Required Detection Limit
IDL - Instrument Detection Limit
NA - Not analyzed
ND - Not detected at or above method reporting limit
VOCs - Volatile organic compounds
µg/L - Micrograms per liter
mg/L - Milligrams per liter

Laboratory Qualifiers--assigned as a result of laboratory data assessment procedures
B - Value less than CRDL but greater than or equal to IDL
UB - Qualifies as non-detect due to presence of analyte in associated laboratory blank

EPA Qualifiers--assigned as a result of independent data validation
(J) - Estimated value based on QC criteria
(UJ) - Estimated non-detect based on QC criteria

2003/2005 Validation Qualifiers
J - Estimated value detected less than the CRDL but greater than the reporting limit.
U - Compound was analyzed for but not detected. Analyte result was below the CRDL.
UJ - Estimated as a non-detect at the detection limit.

Bold values indicate analytes above New Mexico Groundwater Quality Standards.
For Manganese this value is 200 ug/L in groundwater having a TDS level of 10,000 mg/L or less.

Summary of Analytical Results from the 1995, 1997, 1999, 2001, 2003, and 2005 Long-Term Monitoring Programs at LF-21

Well Number	MW-21-03						MW-21-04					
Sampling Date	Aug-95	Sep-97	Sep-99	Sep-01	Apr-03	Dec-05	Aug-95	Sep-97	Sep-99	Sep-01	Apr-03	Dec-05
VOCs[1] (µg/L)												
Acetone	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	5.1 J
Chloroform	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND
cis-1,2-Dichloroethene	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	NA	ND
Methylene chloride	ND	5.4 UB	<3	NA	NA	ND	ND	4.7 UB	<3	NA	NA	ND
Trichloroethylene	ND	ND	<3	<5	<1	ND	ND	ND	<3	<5	<1	ND
Metals[2] (µg/L)												
Arsenic	ND	ND	11.6 B (J)	12 (J)	16.1	12.4	ND	ND	4.6 B (J)	6.7 B (J)	11.8	2.9 U
Barium	ND	36	36.1 B (J)	NA	26.8	33.2 J	ND	38	37.1 B (J)	NA	24.7	36.2 J
Cadmium	ND	ND	0.6 B	NA	NA	0.60 U	ND	ND	0.7 B	NA	NA	0.77 J
Calcium	NA	NA	NA	NA	NA	2,010,000	NA	NA	NA	NA	NA	2,310,000
Chromium	ND	ND	<0.6	<20	NA	0.50 U	ND	ND	<0.6	<200	NA	0.50 U
Cobalt	NA	NA	NA	NA	NA	1.1 J	NA	NA	NA	NA	NA	3.9 J
Iron	ND	ND	<21	<1000	67.4 J	7,500 U	ND	600	936	**3,440 B**	89.2 J	3,800 U
Magnesium	NA	NA	NA	NA	NA	2,190,000	NA	NA	NA	NA	NA	2,500,000
Manganese	ND	50	34.8 (J)	42.1 (J)	19.2	12.0 J	ND	ND	78.5 (J)	62.5 (J)	18.6	141
Nickel	NA	NA	NA	NA	NA	1.1 U	NA	NA	NA	NA	NA	1.1 U
Potassium	NA	NA	NA	NA	NA	149,000	NA	NA	NA	NA	NA	148,000
Selenium	ND	ND	12.4 B (J)	NA	13.4 J	240 U	ND	ND	11.5 B (J)	NA	12.6 J	240 U
Sodium	NA	NA	NA	NA	NA	5,300,000	NA	NA	NA	NA	NA	6,220,000
Thallium	NA	NA	NA	NA	NA	7.4 J	NA	NA	NA	NA	NA	6.2 J
Vanadium	NA	NA	NA	NA	NA	47.2 J	NA	NA	NA	NA	NA	22.1 J
Zinc	NA	NA	NA	NA	NA	2.2 J	NA	NA	NA	NA	NA	4.1 J
Organochlorine Pesticides[3] (µg/L)												
All	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND
Chlorinated Herbicides[4] (µg/L)												
All	ND	ND	NA	NA	NA	ND	ND	ND	NA	NA	NA	ND
Filterable Residue (mg/L)												
TDS[6]	NA	NA	NA	NA	NA	**24,200**	NA	NA	NA	NA	NA	**36,700**

Notes:

[1] Unless otherwise reported, no VOCs were detected using EPA Method 8260B.
(EPA Method 8260A was used to analyze for VOCs in the 1995 and 1997 programs.)

[2] Unless otherwise reported, no metals were detected using EPA Methods 6010B & 7470A.
(EPA Methods 6010 & 7000 were used to analyze for metals in the 1995 and 1997 programs.)

[3] Unless otherwise reported, no organochlorine pesticides were detected using EPA Method 8081A.
(EPA Method 8080A was used to analyze for organochlorine pesticides in the 1995 and 1997 programs.)

[4] Unless otherwise reported, no chlorinated herbicides were detected using EPA Method 8151.
(EPA Method 8150B was used to analyze for chlorinated herbicides in the 1995 and 1997 programs.)

[5] Upgradient monitoring well

[6] Total Dissolved Solids (TDS) were analyzed using EPA Method 160.1

CRDL - Contract-Required Detection Limit
IDL - Instrument Detection Limit
NA - Not analyzed
ND - Not detected at or above method reporting limit
VOCs - Volatile organic compounds
µg/L - Micrograms per liter
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(J) - Estimated value based on QC criteria
(UJ) - Estimated non-detect based on QC criteria

2003/2005 Validation Qualifiers
J - Estimated value detected less than the CRDL but greater than the reporting limit.
U - Compound was analyzed for but not detected. Analyte result was below the CRDL.
UJ - Estimated as a non-detect at the detection limit.

Bold values indicate analytes above New Mexico Groundwater Quality Standards.
For Manganese this value is 200 ug/L in groundwater having a TDS level of 10,000 mg/L or less.

APPENDIX C

ANALYTICAL RESULTS CORRESPONDING TO LOCATIONS WCC-1, WR-TH-12, AND WR-TH-13 AT SS-72

File: 17G
R.L.

HOLLOMAN AFB
NEW MEXICO

ADMINISTRATIVE RECORD
COVER SHEET

AR File Number 57

ENGINEERING SERVICES

File: 17B-56
R.L.

57

68

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DRAFT PRELIMINARY INVESTIGATION AND SITE CHARACTERIZATION WEST RAMP FUEL CONTAMINATION HOLLOMAN AIR FORCE BASE NEW MEXICO

April 1991

Prepared for
U.S. Army Corps of Engineers
Albuquerque District

Prepared by

Woodward-Clyde

4582 South Ulster Street Parkway
Stanford Place 3, Suite 1000
Denver, Colorado 80237

Project No. 22720G T100

TABLE 5

SUMMARY OF LABORATORY TEST RESULTS FOR WATER SAMPLES - BTEX, TPH AND METALS HOLLOMAN AIR FORCE BASE

Monitoring Well	BTEX (μg/L).				TPH (mg/L)	Metals (μg/L)				
	Benzene	Toluene	Ethylbenzene	Xylenes		Cadmium	Chromium	Lead	Mercury	Zinc
WCC-1	ND	ND	ND	ND	ND	ND	ND	ND	1.97	ND
WCC-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WCC-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WCC-4	ND	ND	ND	ND	ND	ND	6.0	ND	ND	ND
WCC-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
WCC-6	ND	ND	1.1, 1.1D	10.4, 10.6D	ND	ND	ND	ND	ND	ND

Notes:

1) BTEX quantitation limits:

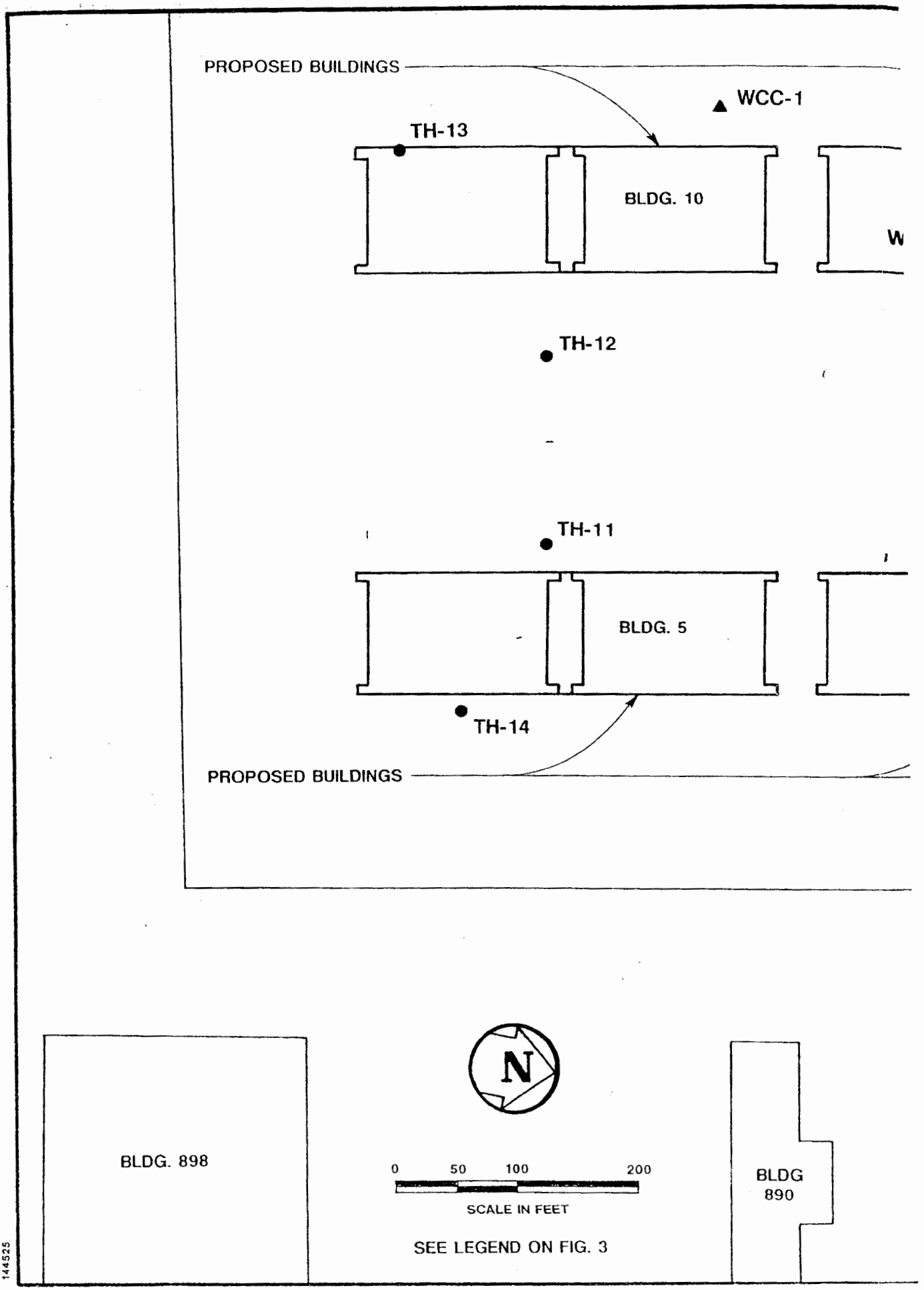
Benzene	1.0 μg/L
Toluene	1.0 μg/L
Ethylbenzene	1.0 μg/L
Xylenes	1.0 μg/L

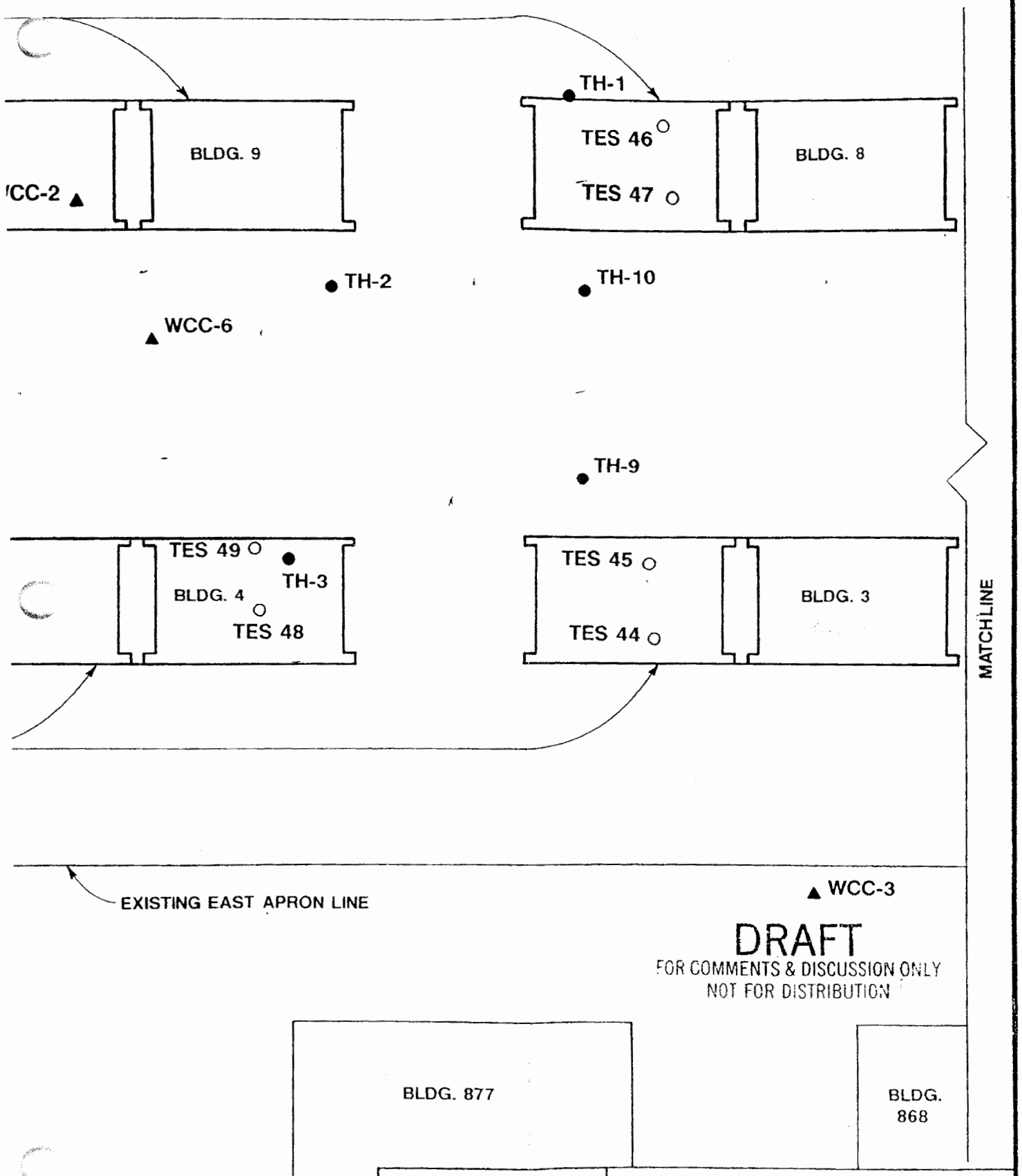
2) ND - Not detected above quantitation limit. See Appendix C for other quantitation limits.
3) D - Duplicate sample.

DRAFT

TABLE 2
(Continued)

Monitoring Well or Test Hole	Depth (ft)	BTEX (μg/kg)				TPH (mg/kg)	Metals (mg/kg)				
		Benzene	Toluene	Ethylbenzene	Xylenes		Cadmium	Chromium	Lead	Mercury	Zinc
TH-6	2	6.5	3.1	8.1	8.7	ND	ND	4.0	6.7	0.12	8.8
TH-7	2	ND	ND	ND	ND	16	ND	4.9	6.6	0.10	13.2
	4	ND	ND	ND	ND	15	ND	5.2	10.2	ND	12.5
TH-8	2	ND	ND	ND	ND	ND	ND	4.3	7.2	ND	11.2
	4.5	ND	ND	ND	ND	ND	ND	1.9	6.0	ND	4.5
TH-9	2	ND	ND	ND	ND	ND	ND	1.2	5.8	ND	3.0
	3.5	ND	ND	ND	ND	ND	ND	2.3	5.1	ND	4.6
TH-10	2	ND	ND	ND	ND	35	ND	1.9	5.6	ND	3.9
	3.5	ND	0.9J	ND	1.8	ND	ND	2.6	5.6	ND	5.8
TH-11	2	ND	ND	ND	ND	*38	ND	1.3	ND	ND	8.3
	3.5	ND	ND	ND	ND	20	ND	1.6	ND	ND	4.5
TH-12	2	0.8J	ND	7.3	ND	ND	ND	ND	ND	ND	ND
	3.5	ND	ND	ND	ND	ND	ND	1.2	ND	ND	4.0
TH-13	2	ND	ND	ND	ND	ND	ND	1.9	6.7	ND	10.0
	3.5	ND	ND	ND	ND	ND	ND	2.0	ND	ND	6.6
TH-14	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	3.5	ND	ND	ND	ND	ND	ND	2.0	ND	ND	17.7
2 (TH-7) Duplicate	4	ND	ND	ND	ND	ND	ND	5.6	ND	ND	12.7


PROPOSED BUILDINGS
WCC-1
TH-13
BLDG. 10
W
TH-12
TH-11
BLDG. 5
TH-14
PROPOSED BUILDINGS
BLDG. 898
N
0
50
100
200
SCALE IN FEET
SEE LEGEND ON FIG. 3
BLDG
890
144525



Job No. : 22720G	SOUTH HALF OF SITE LOCATION MAP
Prepared by : P.A.M.	HOLLOMAN AIR FORCE BASE
Date : 4/10/91	ALAMOGORDO, NEW MEXICO

FIG. 2

APPENDIX D

ANALYTICAL RESULTS FOR SOIL AND GROUNDWATER SAMPLING AT SS-73 IN MAY AND JUNE 2006

F40963

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

11/21/06

Technical Report for

Bhate Environmental Associates, Inc.

HOLMN

PROJECT # 9030024.05

Accutest Job Number: F40963

Sampling Date: 05/23/06

Report to:

Bhate Environmental Associates, Inc.
1608 13th Ave. South
Suite 300
Birmingham, AL 35205

ATTN: Mike D'Auben

Total number of pages in report: 31

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Sample Summary

Bhate Environmental Associates, Inc.

Job No: F40963

HOLMN
Project No: PROJECT # 9030024.05

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F40963-1	05/23/06	11:45 DH	05/24/06	SO	Soil	SS73DP02-17
F40963-2	05/23/06	11:45 DH	05/24/06	SO	Soil	SS73DP02-17a
F40963-3	05/23/06	10:40 DH	05/24/06	SO	Soil	SS73DP01-17
F40963-3D	05/23/06	10:40 DH	05/24/06	SO	Soil Dup/MSD	SS73DP01-17
F40963-3S	05/23/06	10:40 DH	05/24/06	SO	Soil Matrix Spike	SS73DP01-17
F40963-4	05/23/06	00:00 DH	05/24/06	SO	Trip Blank Soil	TRIP BLANK

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Bhate Environmental Associates, Inc. **Job No:** F40963

Site: HOLMN **Report Date** 6/7/2006 8:55:24 AM

3 Samples, 1 Trip Blank were collected on 05/23/2006 and received at Accutest on 05/24/2006 properly preserved, at 2.8 Deg. C and intact. These Samples received an Accutest job number of F40963. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VG1508

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F40963-3MS, F40963-3MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for Pentachloroethane, Trans-1,4-Dichloro-2-Butene, Vinyl Acetate are outside control limits. Biased **high,** not detected in the samples, data integrity not affected.

F40963-2 for Methylene chloride: Suspected laboratory contaminant.

F40963-1 for Methylene chloride: Suspected laboratory contaminant.

F40963-3 for Methylene chloride: Suspected laboratory contaminant.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Date: June 07, 2006

Svetlana Izosimova, QAO (signature on file)

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS73DP02-17		
Lab Sample ID:	F40963-1	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0039247.D	1	06/02/06	SH	n/a	n/a	VG1508
Run #2							

	Initial Weight
Run #1	5.69 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	44	22	ug/kg	
75-05-8	Acetonitrile	ND	44	31	ug/kg	
107-02-8	Acrolein	ND	22	13	ug/kg	
107-13-1	Acrylonitrile	ND	22	11	ug/kg	
107-05-1	Allyl chloride	ND	22	4.4	ug/kg	
71-43-2	Benzene	ND	4.4	1.8	ug/kg	
100-44-7	Benzyl Chloride	ND	4.4	2.6	ug/kg	
108-86-1	Bromobenzene	ND	4.4	1.8	ug/kg	
74-97-5	Bromochloromethane	ND	4.4	1.8	ug/kg	
75-27-4	Bromodichloromethane	ND	4.4	1.8	ug/kg	
75-25-2	Bromoform	ND	4.4	1.8	ug/kg	
104-51-8	n-Butylbenzene	ND	4.4	2.6	ug/kg	
135-98-8	sec-Butylbenzene	ND	4.4	1.8	ug/kg	
98-06-6	tert-Butylbenzene	ND	4.4	1.8	ug/kg	
108-90-7	Chlorobenzene	ND	4.4	1.8	ug/kg	
75-00-3	Chloroethane	ND	4.4	2.6	ug/kg	
67-66-3	Chloroform	ND	4.4	1.8	ug/kg	
544-10-5	1-Chlorohexane	ND	4.4	1.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	4.4	1.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	4.4	1.8	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	22	11	ug/kg	
75-15-0	Carbon disulfide	ND	4.4	1.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	4.4	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	4.4	1.8	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	4.4	1.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	4.4	1.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.4	2.6	ug/kg	
106-93-4	1,2-Dibromoethane	ND	4.4	1.8	ug/kg	
107-06-2	1,2-Dichloroethane	ND	4.4	1.8	ug/kg	
78-87-5	1,2-Dichloropropane	ND	4.4	1.8	ug/kg	
142-28-9	1,3-Dichloropropane	ND	4.4	1.8	ug/kg	
594-20-7	2,2-Dichloropropane	ND	4.4	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP02-17		
Lab Sample ID:	F40963-1	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	4.4	1.8	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.4	2.6	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	4.4	1.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	4.4	1.8	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	22		ug/kg	
541-73-1	m-Dichlorobenzene	ND	4.4	1.8	ug/kg	
95-50-1	o-Dichlorobenzene	ND	4.4	1.8	ug/kg	
106-46-7	p-Dichlorobenzene	ND	4.4	1.8	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	4.4	1.8	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	4.4	1.8	ug/kg	
100-41-4	Ethylbenzene	ND	4.4	1.8	ug/kg	
97-63-2	Ethyl methacrylate	ND	22	4.4	ug/kg	
76-13-1	Freon 113	ND	4.4	1.8	ug/kg	
591-78-6	2-Hexanone	ND	22	8.8	ug/kg	
87-68-3	Hexachlorobutadiene	ND	4.4	1.8	ug/kg	
110-54-3	Hexane	ND	4.4	2.6	ug/kg	
98-82-8	Isopropylbenzene	ND	4.4	1.8	ug/kg	
99-87-6	p-Isopropyltoluene	ND	4.4	1.8	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	22	8.8	ug/kg	
126-98-7	Methacrylonitrile	ND	22	8.8	ug/kg	
74-83-9	Methyl bromide	ND	4.4	1.8	ug/kg	
74-87-3	Methyl chloride	ND	4.4	1.8	ug/kg	
74-88-4	Methyl iodide	ND	8.8	1.8	ug/kg	
80-62-6	Methyl methacrylate	ND	22	4.4	ug/kg	
74-95-3	Methylene bromide	ND	4.4	1.8	ug/kg	
75-09-2	Methylene chloride [b]	6.5	8.8	4.4	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	22	8.8	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.4	1.8	ug/kg	
91-20-3	Naphthalene	ND	4.4	1.8	ug/kg	
76-01-7	Pentachloroethane	ND	22	4.4	ug/kg	
107-12-0	Propionitrile	ND	44	8.8	ug/kg	
103-65-1	n-Propylbenzene	ND	4.4	1.8	ug/kg	
100-42-5	Styrene	ND	4.4	1.8	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	4.4	1.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	4.4	1.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.4	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	4.4	1.8	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.4	1.8	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.4	2.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.4	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP02-17		
Lab Sample ID:	F40963-1	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	4.4	2.6	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.4	1.8	ug/kg	
127-18-4	Tetrachloroethylene	ND	4.4	1.8	ug/kg	
108-88-3	Toluene	ND	4.4	1.8	ug/kg	
79-01-6	Trichloroethylene	ND	4.4	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.4	1.8	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	22	8.8	ug/kg	
75-01-4	Vinyl chloride	ND	4.4	1.8	ug/kg	
108-05-4	Vinyl Acetate	ND	22	8.8	ug/kg	
	m,p-Xylene	ND	8.8	2.6	ug/kg	
95-47-6	o-Xylene	ND	4.4	1.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		78-123%
2037-26-5	Toluene-D8	90%		71-137%
460-00-4	4-Bromofluorobenzene	97%		61-157%
17060-07-0	1,2-Dichloroethane-D4	105%		74-125%

(a) Percent solids not analyzed due to sample matrix. Results reported on wet weight basis.
(b) Suspected laboratory contaminant.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS73DP02-17a		
Lab Sample ID:	F40963-2	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0039252.D	1	06/02/06	SH	n/a	n/a	VG1508
Run #2							

	Initial Weight
Run #1	5.59 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	45	22	ug/kg	
75-05-8	Acetonitrile	ND	45	31	ug/kg	
107-02-8	Acrolein	ND	22	13	ug/kg	
107-13-1	Acrylonitrile	ND	22	11	ug/kg	
107-05-1	Allyl chloride	ND	22	4.5	ug/kg	
71-43-2	Benzene	ND	4.5	1.8	ug/kg	
100-44-7	Benzyl Chloride	ND	4.5	2.7	ug/kg	
108-86-1	Bromobenzene	ND	4.5	1.8	ug/kg	
74-97-5	Bromochloromethane	ND	4.5	1.8	ug/kg	
75-27-4	Bromodichloromethane	ND	4.5	1.8	ug/kg	
75-25-2	Bromoform	ND	4.5	1.8	ug/kg	
104-51-8	n-Butylbenzene	ND	4.5	2.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	4.5	1.8	ug/kg	
98-06-6	tert-Butylbenzene	ND	4.5	1.8	ug/kg	
108-90-7	Chlorobenzene	ND	4.5	1.8	ug/kg	
75-00-3	Chloroethane	ND	4.5	2.7	ug/kg	
67-66-3	Chloroform	ND	4.5	1.8	ug/kg	
544-10-5	1-Chlorohexane	ND	4.5	1.8	ug/kg	
95-49-8	o-Chlorotoluene	ND	4.5	1.8	ug/kg	
106-43-4	p-Chlorotoluene	ND	4.5	1.8	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	22	11	ug/kg	
75-15-0	Carbon disulfide	ND	4.5	1.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	4.5	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	4.5	1.8	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	4.5	1.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	4.5	1.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.5	2.7	ug/kg	
106-93-4	1,2-Dibromoethane	ND	4.5	1.8	ug/kg	
107-06-2	1,2-Dichloroethane	ND	4.5	1.8	ug/kg	
78-87-5	1,2-Dichloropropane	ND	4.5	1.8	ug/kg	
142-28-9	1,3-Dichloropropane	ND	4.5	1.8	ug/kg	
594-20-7	2,2-Dichloropropane	ND	4.5	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP02-17a		
Lab Sample ID:	F40963-2	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	4.5	1.8	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.5	2.7	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	4.5	1.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	4.5	1.8	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	22		ug/kg	
541-73-1	m-Dichlorobenzene	ND	4.5	1.8	ug/kg	
95-50-1	o-Dichlorobenzene	ND	4.5	1.8	ug/kg	
106-46-7	p-Dichlorobenzene	ND	4.5	1.8	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	4.5	1.8	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	4.5	1.8	ug/kg	
100-41-4	Ethylbenzene	ND	4.5	1.8	ug/kg	
97-63-2	Ethyl methacrylate	ND	22	4.5	ug/kg	
76-13-1	Freon 113	ND	4.5	1.8	ug/kg	
591-78-6	2-Hexanone	ND	22	8.9	ug/kg	
87-68-3	Hexachlorobutadiene	ND	4.5	1.8	ug/kg	
110-54-3	Hexane	ND	4.5	2.7	ug/kg	
98-82-8	Isopropylbenzene	ND	4.5	1.8	ug/kg	
99-87-6	p-Isopropyltoluene	ND	4.5	1.8	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	22	8.9	ug/kg	
126-98-7	Methacrylonitrile	ND	22	8.9	ug/kg	
74-83-9	Methyl bromide	ND	4.5	1.8	ug/kg	
74-87-3	Methyl chloride	ND	4.5	1.8	ug/kg	
74-88-4	Methyl iodide	ND	8.9	1.8	ug/kg	
80-62-6	Methyl methacrylate	ND	22	4.5	ug/kg	
74-95-3	Methylene bromide	ND	4.5	1.8	ug/kg	
75-09-2	Methylene chloride [b]	5.8	8.9	4.5	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	22	8.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.5	1.8	ug/kg	
91-20-3	Naphthalene	ND	4.5	1.8	ug/kg	
76-01-7	Pentachloroethane	ND	22	4.5	ug/kg	
107-12-0	Propionitrile	ND	45	8.9	ug/kg	
103-65-1	n-Propylbenzene	ND	4.5	1.8	ug/kg	
100-42-5	Styrene	ND	4.5	1.8	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	4.5	1.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	4.5	1.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.5	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	4.5	1.8	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.5	1.8	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.5	2.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.5	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP02-17a		
Lab Sample ID:	F40963-2	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	4.5	2.7	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.5	1.8	ug/kg	
127-18-4	Tetrachloroethylene	ND	4.5	1.8	ug/kg	
108-88-3	Toluene	ND	4.5	1.8	ug/kg	
79-01-6	Trichloroethylene	ND	4.5	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.5	1.8	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	22	8.9	ug/kg	
75-01-4	Vinyl chloride	ND	4.5	1.8	ug/kg	
108-05-4	Vinyl Acetate	ND	22	8.9	ug/kg	
	m,p-Xylene	ND	8.9	2.7	ug/kg	
95-47-6	o-Xylene	ND	4.5	1.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		78-123%
2037-26-5	Toluene-D8	88%		71-137%
460-00-4	4-Bromofluorobenzene	95%		61-157%
17060-07-0	1,2-Dichloroethane-D4	103%		74-125%

(a) Percent solids not analyzed due to sample matrix. Results reported on wet weight basis.
(b) Suspected laboratory contaminant.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS73DP01-17		
Lab Sample ID:	F40963-3	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0039246.D	1	06/02/06	SH	n/a	n/a	VG1508
Run #2							

	Initial Weight
Run #1	5.90 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	42	21	ug/kg	
75-05-8	Acetonitrile	ND	42	30	ug/kg	
107-02-8	Acrolein	ND	21	13	ug/kg	
107-13-1	Acrylonitrile	ND	21	11	ug/kg	
107-05-1	Allyl chloride	ND	21	4.2	ug/kg	
71-43-2	Benzene	ND	4.2	1.7	ug/kg	
100-44-7	Benzyl Chloride	ND	4.2	2.5	ug/kg	
108-86-1	Bromobenzene	ND	4.2	1.7	ug/kg	
74-97-5	Bromochloromethane	ND	4.2	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	4.2	1.7	ug/kg	
75-25-2	Bromoform	ND	4.2	1.7	ug/kg	
104-51-8	n-Butylbenzene	ND	4.2	2.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	4.2	1.7	ug/kg	
98-06-6	tert-Butylbenzene	ND	4.2	1.7	ug/kg	
108-90-7	Chlorobenzene	ND	4.2	1.7	ug/kg	
75-00-3	Chloroethane	ND	4.2	2.5	ug/kg	
67-66-3	Chloroform	ND	4.2	1.7	ug/kg	
544-10-5	1-Chlorohexane	ND	4.2	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	4.2	1.7	ug/kg	
106-43-4	p-Chlorotoluene	ND	4.2	1.7	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	21	11	ug/kg	
75-15-0	Carbon disulfide	ND	4.2	1.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	4.2	1.7	ug/kg	
75-34-3	1,1-Dichloroethane	ND	4.2	1.7	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	4.2	1.7	ug/kg	
563-58-6	1,1-Dichloropropene	ND	4.2	1.7	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.2	2.5	ug/kg	
106-93-4	1,2-Dibromoethane	ND	4.2	1.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	4.2	1.7	ug/kg	
78-87-5	1,2-Dichloropropane	ND	4.2	1.7	ug/kg	
142-28-9	1,3-Dichloropropane	ND	4.2	1.7	ug/kg	
594-20-7	2,2-Dichloropropane	ND	4.2	1.7	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP01-17		
Lab Sample ID:	F40963-3	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	4.2	1.7	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.2	2.5	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	4.2	1.7	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	4.2	1.7	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	21		ug/kg	
541-73-1	m-Dichlorobenzene	ND	4.2	1.7	ug/kg	
95-50-1	o-Dichlorobenzene	ND	4.2	1.7	ug/kg	
106-46-7	p-Dichlorobenzene	ND	4.2	1.7	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	4.2	1.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	4.2	1.7	ug/kg	
100-41-4	Ethylbenzene	ND	4.2	1.7	ug/kg	
97-63-2	Ethyl methacrylate	ND	21	4.2	ug/kg	
76-13-1	Freon 113	ND	4.2	1.7	ug/kg	
591-78-6	2-Hexanone	ND	21	8.5	ug/kg	
87-68-3	Hexachlorobutadiene	ND	4.2	1.7	ug/kg	
110-54-3	Hexane	ND	4.2	2.5	ug/kg	
98-82-8	Isopropylbenzene	ND	4.2	1.7	ug/kg	
99-87-6	p-Isopropyltoluene	ND	4.2	1.7	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	21	8.5	ug/kg	
126-98-7	Methacrylonitrile	ND	21	8.5	ug/kg	
74-83-9	Methyl bromide	ND	4.2	1.7	ug/kg	
74-87-3	Methyl chloride	ND	4.2	1.7	ug/kg	
74-88-4	Methyl iodide	ND	8.5	1.7	ug/kg	
80-62-6	Methyl methacrylate	ND	21	4.2	ug/kg	
74-95-3	Methylene bromide	ND	4.2	1.7	ug/kg	
75-09-2	Methylene chloride [b]	6.6	8.5	4.2	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	21	8.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.2	1.7	ug/kg	
91-20-3	Naphthalene	ND	4.2	1.7	ug/kg	
76-01-7	Pentachloroethane	ND	21	4.2	ug/kg	
107-12-0	Propionitrile	ND	42	8.5	ug/kg	
103-65-1	n-Propylbenzene	ND	4.2	1.7	ug/kg	
100-42-5	Styrene	ND	4.2	1.7	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	4.2	1.7	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	4.2	1.7	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.2	1.7	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	4.2	1.7	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.2	1.7	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.2	2.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.2	1.7	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP01-17		
Lab Sample ID:	F40963-3	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	4.2	2.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.2	1.7	ug/kg	
127-18-4	Tetrachloroethylene	ND	4.2	1.7	ug/kg	
108-88-3	Toluene	ND	4.2	1.7	ug/kg	
79-01-6	Trichloroethylene	ND	4.2	1.7	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.2	1.7	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	21	8.5	ug/kg	
75-01-4	Vinyl chloride	ND	4.2	1.7	ug/kg	
108-05-4	Vinyl Acetate	ND	21	8.5	ug/kg	
	m,p-Xylene	ND	8.5	2.5	ug/kg	
95-47-6	o-Xylene	ND	4.2	1.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		78-123%
2037-26-5	Toluene-D8	90%		71-137%
460-00-4	4-Bromofluorobenzene	102%		61-157%
17060-07-0	1,2-Dichloroethane-D4	97%		74-125%

(a) Percent solids not analyzed due to sample matrix. Results reported on wet weight basis.
(b) Suspected laboratory contaminant.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F40963-4	Date Sampled:	05/23/06
Matrix:	SO - Trip Blank Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G0039250.D	1	06/02/06	SH	n/a	n/a	VG1508
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
75-05-8	Acetonitrile	ND	50	35	ug/kg	
107-02-8	Acrolein	ND	25	15	ug/kg	
107-13-1	Acrylonitrile	ND	25	13	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	3.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	2.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	2.0	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	2.0	ug/kg	
75-25-2	Bromoform	ND	5.0	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	3.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	2.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	3.0	ug/kg	
67-66-3	Chloroform	ND	5.0	2.0	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	2.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	2.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	13	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	2.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	2.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	3.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	2.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.0	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F40963-4	Date Sampled:	05/23/06
Matrix:	SO - Trip Blank Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	3.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.0	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25		ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	2.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	2.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	2.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	2.0	ug/kg	
591-78-6	2-Hexanone	ND	25	10	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	3.0	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	2.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	2.0	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	10	ug/kg	
126-98-7	Methacrylonitrile	ND	25	10	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	2.0	ug/kg	
80-62-6	Methyl methacrylate	ND	25	5.0	ug/kg	
74-95-3	Methylene bromide	ND	5.0	2.0	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	10	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	10	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	2.0	ug/kg	
100-42-5	Styrene	ND	5.0	2.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	2.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F40963-4	Date Sampled:	05/23/06
Matrix:	SO - Trip Blank Soil	Date Received:	05/24/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	3.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	2.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	2.0	ug/kg	
108-88-3	Toluene	ND	5.0	2.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	2.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	10	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	10	ug/kg	
	m,p-Xylene	ND	10	3.0	ug/kg	
95-47-6	o-Xylene	ND	5.0	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		78-123%
2037-26-5	Toluene-D8	88%		71-137%
460-00-4	4-Bromofluorobenzene	98%		61-157%
17060-07-0	1,2-Dichloroethane-D4	99%		74-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST Laboratories
4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F40963
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: BHATE Environmental
ADDRESS: 1641 Vandergriff Rd
CITY, STATE, ZIP: HAFB NM 88330
SEND REPORT TO:
PHONE #:

FACILITY INFORMATION

PROJECT NAME: ~~SS72~~ ~~SS01~~ SS72
LOCATION: HAFB
PROJECT NO.: ~~9033~~ 903 0024-05
FAX #:

ANALYTICAL INFORMATION

VOC 8260

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	VOC 8260	LAB USE ONLY
1	SS72 DP02-17	5/23/06	1145	DH	SO	3						X	
2	SS72 DP02-17a	5/23/06	1145	DH	SO	3						X	
3	SS72 DP 01-17	5/22/06	1040	DH	SO	3						X	
① 4	SS72 DP 01-17 MSD	5/23/06	1040	DH	SO	3						X	
② 5	SS72 DP 01-17 MS	5/22/06	1040	DH	SO	3						X	
4	Trip Blank											X	

DATA TURNAROUND INFORMATION

☐ STANDARD
☐ 48 HOUR RUSH
☐ 24 HOUR EMERGENCY
☐ OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

☐ STANDARD
☐ COMMERCIAL "B"
☐ DISK DELIVERABLE
☐ STATE FORMS
☐ OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. DH	5/22/06 1600	1. FX	2. FX	6-24-06 9:00	2. [illegible] Crown
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERATURE 2.8 C

4.1 4

F40963: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F40963 CLIENT: BHate PROJECT: SS-72

DATE/TIME RECEIVED: 5-24-06 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2.8

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8574-8739-6432

4.1 4

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [X] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [X] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DON'T MATCH LABEL
- [ ] ID'S ON COC DON'T MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

MISC. INFORMATION

NUMBER OF ENCORES ? 15

NUMBER OF 5035 FIELD KITS ? 0

NUMBER OR LAB FILTERED METALS ? 0

SUMMARY OF COMMENTS: no soil Jars Received for samples.

TECHNICIAN SIGNATURE/DATE Steven Everett 5-24-06 TECHNICIAN SIGNATURE/DATE

F40963: Chain of Custody
Page 2 of 3

ACCUTEST Laboratories F40963

Job Change Order: F40963_5/25/2006

Requested Date:	5/25/2006	**Received Date:**	5/24/2006
Account Name:	Bhate Environmental Associates,	**Due Date:**	6/7/2006
Project Description:	HOLMN	**Deliverable:**	COMMBN
CSR:	SB	**TAT (Days):**	14

Sample #:
F40963-all

Change: No dry wt jars were received for samples. Per Kevin@ Bhate via e-mail and Jim Moore@ Bhate via phone, 05.25.06, samples were to be reported on an as received basis.

F40963: Chain of Custody
Page 3 of 3

Above Changes Per: Kevin@ HOLMN/Bhate **Date:** 5/25/2006

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

5

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG1508-MB	G0039243.D	1	06/02/06	SH	n/a	n/a	VG1508

The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
75-05-8	Acetonitrile	ND	50	35	ug/kg	
107-02-8	Acrolein	ND	25	15	ug/kg	
107-13-1	Acrylonitrile	ND	25	13	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	3.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	2.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	2.0	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	2.0	ug/kg	
75-25-2	Bromoform	ND	5.0	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	3.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	2.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	3.0	ug/kg	
67-66-3	Chloroform	ND	5.0	2.0	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	2.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	2.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	13	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	2.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	2.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	3.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	2.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.0	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	3.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.0	ug/kg	

Method Blank Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG1508-MB	G0039243.D	1	06/02/06	SH	n/a	n/a	VG1508

The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25		ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	2.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	2.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	2.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	2.0	ug/kg	
591-78-6	2-Hexanone	ND	25	10	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	3.0	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	2.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	2.0	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	10	ug/kg	
126-98-7	Methacrylonitrile	ND	25	10	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	2.0	ug/kg	
80-62-6	Methyl methacrylate	ND	25	5.0	ug/kg	
74-95-3	Methylene bromide	ND	5.0	2.0	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	10	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	2.7	5.0	2.0	ug/kg	J
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	10	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	2.0	ug/kg	
100-42-5	Styrene	ND	5.0	2.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	2.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	

Method Blank Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG1508-MB	G0039243.D	1	06/02/06	SH	n/a	n/a	VG1508

The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	3.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	2.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	2.0	ug/kg	
108-88-3	Toluene	ND	5.0	2.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	2.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	10	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	10	ug/kg	
	m,p-Xylene	ND	10	3.0	ug/kg	
95-47-6	o-Xylene	ND	5.0	2.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	78-123%
2037-26-5	Toluene-D8	91%	71-137%
460-00-4	4-Bromofluorobenzene	101%	61-157%
17060-07-0	1,2-Dichloroethane-D4	101%	74-125%

Blank Spike Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG1508-BS	G0039242.D	1	06/02/06	SH	n/a	n/a	VG1508

The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	250	167	67	51-136
75-05-8	Acetonitrile	500	545	109	50-150 [a]
107-02-8	Acrolein	250	220	88	28-180
107-13-1	Acrylonitrile	250	257	103	43-151
107-05-1	Allyl chloride	50	52.3	105	50-150 [a]
71-43-2	Benzene	50	56.0	112	74-124
100-44-7	Benzyl Chloride	50	55.6	111	50-150 [a]
108-86-1	Bromobenzene	50	52.9	106	78-117
74-97-5	Bromochloromethane	50	50.2	100	77-126
75-27-4	Bromodichloromethane	50	52.8	106	74-124
75-25-2	Bromoform	50	49.6	99	79-127
104-51-8	n-Butylbenzene	50	58.1	116	75-131
135-98-8	sec-Butylbenzene	50	58.7	117	78-128
98-06-6	tert-Butylbenzene	50	58.2	116	76-126
108-90-7	Chlorobenzene	50	54.2	108	78-117
75-00-3	Chloroethane	50	66.6	133	63-147
67-66-3	Chloroform	50	57.2	114	75-121
544-10-5	1-Chlorohexane	50	58.8	118	76-137
95-49-8	o-Chlorotoluene	50	57.1	114	79-124
106-43-4	p-Chlorotoluene	50	58.0	116	79-124
110-75-8	2-Chloroethyl vinyl ether	250	334	134	31-165
75-15-0	Carbon disulfide	50	56.2	112	59-148
56-23-5	Carbon tetrachloride	50	56.8	114	67-131
75-34-3	1,1-Dichloroethane	50	56.1	112	71-118
75-35-4	1,1-Dichloroethylene	50	54.2	108	64-126
563-58-6	1,1-Dichloropropene	50	57.0	114	73-132
96-12-8	1,2-Dibromo-3-chloropropane	50	52.3	105	71-128
106-93-4	1,2-Dibromoethane	50	52.1	104	78-117
107-06-2	1,2-Dichloroethane	50	56.6	113	72-120
78-87-5	1,2-Dichloropropane	50	55.1	110	74-126
142-28-9	1,3-Dichloropropane	50	52.5	105	77-117
594-20-7	2,2-Dichloropropane	50	57.9	116	66-126
124-48-1	Dibromochloromethane	50	51.5	103	78-120
75-71-8	Dichlorodifluoromethane	50	67.5	135	33-172
156-59-2	cis-1,2-Dichloroethylene	50	51.4	103	75-124
10061-01-5	cis-1,3-Dichloropropene	50	56.8	114	72-120

Blank Spike Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG1508-BS	G0039242.D	1	06/02/06	SH	n/a	n/a	VG1508

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The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	50	59.6	119	50-150 [a]
541-73-1	m-Dichlorobenzene	50	56.8	114	79-119
95-50-1	o-Dichlorobenzene	50	54.5	109	78-119
106-46-7	p-Dichlorobenzene	50	57.0	114	78-117
156-60-5	trans-1,2-Dichloroethylene	50	55.8	112	70-122
10061-02-6	trans-1,3-Dichloropropene	50	59.1	118	75-118
100-41-4	Ethylbenzene	50	55.2	110	77-120
97-63-2	Ethyl methacrylate	50	58.0	116	50-150 [a]
76-13-1	Freon 113	50	53.9	108	66-147
591-78-6	2-Hexanone	250	247	99	68-136
87-68-3	Hexachlorobutadiene	50	59.8	120	69-139
110-54-3	Hexane	50	64.4	129	55-166
98-82-8	Isopropylbenzene	50	57.9	116	79-134
99-87-6	p-Isopropyltoluene	50	58.6	117	80-134
108-10-1	4-Methyl-2-pentanone	250	270	108	69-136
126-98-7	Methacrylonitrile	500	595	119	50-150 [a]
74-83-9	Methyl bromide	50	40.0	80	52-156
74-87-3	Methyl chloride	50	60.9	122	63-142
74-88-4	Methyl iodide	50	50.1	100	65-133
80-62-6	Methyl methacrylate	50	57.8	116	63-143
74-95-3	Methylene bromide	50	55.9	112	74-121
75-09-2	Methylene chloride	50	51.2	102	51-142
78-93-3	Methyl ethyl ketone	250	224	90	63-138
1634-04-4	Methyl Tert Butyl Ether	50	55.9	112	77-131
91-20-3	Naphthalene	50	51.3	103	75-134
76-01-7	Pentachloroethane	50	82.4	165*	50-150 [a]
107-12-0	Propionitrile	500	589	118	50-150 [a]
103-65-1	n-Propylbenzene	50	57.9	116	77-125
100-42-5	Styrene	50	52.4	105	74-120
630-20-6	1,1,1,2-Tetrachloroethane	50	53.1	106	76-118
71-55-6	1,1,1-Trichloroethane	50	58.2	116	70-131
79-34-5	1,1,2,2-Tetrachloroethane	50	56.9	114	76-121
79-00-5	1,1,2-Trichloroethane	50	51.3	103	77-118
87-61-6	1,2,3-Trichlorobenzene	50	55.2	110	76-129
96-18-4	1,2,3-Trichloropropane	50	58.7	117	75-121
120-82-1	1,2,4-Trichlorobenzene	50	56.6	113	73-128

Blank Spike Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG1508-BS	G0039242.D	1	06/02/06	SH	n/a	n/a	VG1508

The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	50	56.2	112	79-121
108-67-8	1,3,5-Trimethylbenzene	50	56.9	114	78-126
127-18-4	Tetrachloroethylene	50	44.6	89	68-127
108-88-3	Toluene	50	53.0	106	74-118
79-01-6	Trichloroethylene	50	56.8	114	72-122
75-69-4	Trichlorofluoromethane	50	63.9	128	60-147
110-57-6	Trans-1,4-Dichloro-2-Butene	50	68.0	136*	68-131
75-01-4	Vinyl chloride	50	61.9	124	64-144
108-05-4	Vinyl Acetate	250	339	136*	47-132
	m,p-Xylene	100	112	112	79-122
95-47-6	o-Xylene	50	55.4	111	75-123

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	78-123%
2037-26-5	Toluene-D8	96%	71-137%
460-00-4	4-Bromofluorobenzene	104%	61-157%
17060-07-0	1,2-Dichloroethane-D4	103%	74-125%

(a) Advisory control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F40963-3MS	G0039248.D	1	06/02/06	SH	n/a	n/a	VG1508
F40963-3MSD	G0039249.D	1	06/02/06	SH	n/a	n/a	VG1508
F40963-3	G0039246.D	1	06/02/06	SH	n/a	n/a	VG1508

The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	F40963-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		226	75.0	33	81.1	37	8	14-140/33
75-05-8	Acetonitrile	ND		453	236	52	250	57	6	50-150/30 [a]
107-02-8	Acrolein	ND		226	77.2	34	85.7	39	10	20-144/42
107-13-1	Acrylonitrile	ND		226	133	59	134	61	1	22-116/31
107-05-1	Allyl chloride	ND		45.3	43.1	95	42.8	97	1	50-150/30 [a]
71-43-2	Benzene	ND		45.3	47.8	106	45.1	102	6	63-135/23
100-44-7	Benzyl Chloride	ND		45.3	28.2	62	28.8	65	2	50-150/30 [a]
108-86-1	Bromobenzene	ND		45.3	44.5	98	41.5	94	7	56-145/30
74-97-5	Bromochloromethane	ND		45.3	38.9	86	36.5	83	6	64-120/23
75-27-4	Bromodichloromethane	ND		45.3	41.6	92	38.9	88	7	63-126/23
75-25-2	Bromoform	ND		45.3	31.6	70	31.9	72	1	54-109/24
104-51-8	n-Butylbenzene	ND		45.3	50.1	111	46.7	106	7	45-159/32
135-98-8	sec-Butylbenzene	ND		45.3	50.6	112	47.2	107	7	54-164/31
98-06-6	tert-Butylbenzene	ND		45.3	49.4	109	46.5	105	6	60-161/30
108-90-7	Chlorobenzene	ND		45.3	44.4	98	41.2	93	7	64-130/24
75-00-3	Chloroethane	ND		45.3	60.9	134	56.6	128	7	53-172/28
67-66-3	Chloroform	ND		45.3	48.0	106	45.2	102	6	68-131/24
544-10-5	1-Chlorohexane	ND		45.3	50.4	111	45.8	104	10	52-162/26
95-49-8	o-Chlorotoluene	ND		45.3	46.8	103	44.3	100	5	59-162/32
106-43-4	p-Chlorotoluene	ND		45.3	48.6	107	44.3	100	9	59-155/29
110-75-8	2-Chloroethyl vinyl ether	ND		226	186	82	187	85	1	16-159/31
75-15-0	Carbon disulfide	ND		45.3	50.6	112	46.4	105	9	47-165/29
56-23-5	Carbon tetrachloride	ND		45.3	49.3	109	46.6	106	6	64-148/24
75-34-3	1,1-Dichloroethane	ND		45.3	48.4	107	44.9	102	8	64-130/25
75-35-4	1,1-Dichloroethylene	ND		45.3	48.8	108	44.6	101	9	55-149/28
563-58-6	1,1-Dichloropropene	ND		45.3	48.7	108	45.6	103	7	67-148/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		45.3	27.1	60	28.5	65	5	39-105/33
106-93-4	1,2-Dibromoethane	ND		45.3	35.8	79	34.2	77	5	55-107/24
107-06-2	1,2-Dichloroethane	ND		45.3	40.3	89	40.0	91	1	60-114/22
78-87-5	1,2-Dichloropropane	ND		45.3	43.6	96	43.2	98	1	65-128/23
142-28-9	1,3-Dichloropropane	ND		45.3	36.8	81	35.6	81	3	58-114/25
594-20-7	2,2-Dichloropropane	ND		45.3	46.2	102	40.9	93	12	60-144/27
124-48-1	Dibromochloromethane	ND		45.3	36.7	81	34.8	79	5	60-119/23
75-71-8	Dichlorodifluoromethane	ND		45.3	59.2	131	56.4	128	5	41-185/30
156-59-2	cis-1,2-Dichloroethylene	ND		45.3	43.7	96	41.5	94	5	66-132/24
10061-01-5	cis-1,3-Dichloropropene	ND		45.3	42.7	94	41.5	94	3	57-118/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F40963-3MS	G0039248.D	1	06/02/06	SH	n/a	n/a	VG1508
F40963-3MSD	G0039249.D	1	06/02/06	SH	n/a	n/a	VG1508
F40963-3	G0039246.D	1	06/02/06	SH	n/a	n/a	VG1508

5.3 5

The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	F40963-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		45.3	34.2	76	31.1	70	9	50-150/30 [a]
541-73-1	m-Dichlorobenzene	ND		45.3	45.6	101	44.8	101	2	59-138/28
95-50-1	o-Dichlorobenzene	ND		45.3	42.9	95	42.1	95	2	56-128/27
106-46-7	p-Dichlorobenzene	ND		45.3	45.9	101	44.9	102	2	57-134/26
156-60-5	trans-1,2-Dichloroethylene	ND		45.3	48.9	108	45.3	103	8	63-137/27
10061-02-6	trans-1,3-Dichloropropene	ND		45.3	42.6	94	40.1	91	6	58-115/25
100-41-4	Ethylbenzene	ND		45.3	47.1	104	41.7	94	12	63-142/25
97-63-2	Ethyl methacrylate	ND		45.3	33.9	75	33.9	77	0	50-150/30 [a]
76-13-1	Freon 113	ND		45.3	48.0	106	49.7	113	3	61-169/28
591-78-6	2-Hexanone	ND		226	118	52	127	58	7	35-109/34
87-68-3	Hexachlorobutadiene	ND		45.3	49.0	108	45.9	104	7	17-160/37
110-54-3	Hexane	ND		45.3	45.7	101	44.2	100	3	28-170/32
98-82-8	Isopropylbenzene	ND		45.3	50.0	110	45.3	103	10	59-177/29
99-87-6	p-Isopropyltoluene	ND		45.3	51.1	113	47.5	108	7	53-168/31
108-10-1	4-Methyl-2-pentanone	ND		226	143	63	147	67	3	44-99/32
126-98-7	Methacrylonitrile	ND		453	321	71	337	76	5	50-150/30 [a]
74-83-9	Methyl bromide	ND		45.3	67.2	148	58.2	132	14	38-188/27
74-87-3	Methyl chloride	ND		45.3	55.1	122	50.5	114	9	57-160/29
74-88-4	Methyl iodide	ND		45.3	43.8	97	41.4	94	6	52-150/30
80-62-6	Methyl methacrylate	ND		45.3	35.8	79	34.7	79	3	56-106/27
74-95-3	Methylene bromide	ND		45.3	36.9	81	36.8	83	0	56-109/24
75-09-2	Methylene chloride	6.6	J	45.3	46.1	87	44.4	86	4	40-183/34
78-93-3	Methyl ethyl ketone	ND		226	103	45	112	51	8	27-112/32
1634-04-4	Methyl Tert Butyl Ether	ND		45.3	37.4	83	38.7	88	3	53-122/28
91-20-3	Naphthalene	ND		45.3	32.2	71	32.9	74	2	20-116/35
76-01-7	Pentachloroethane	ND		45.3	60.0	132	56.7	128	6	50-150/30 [a]
107-12-0	Propionitrile	ND		453	286	63	315	71	10	50-150/30 [a]
103-65-1	n-Propylbenzene	ND		45.3	48.6	107	45.4	103	7	59-163/31
100-42-5	Styrene	ND		45.3	37.4	83	35.1	79	6	54-130/26
630-20-6	1,1,1,2-Tetrachloroethane	ND		45.3	42.9	95	39.6	90	8	64-131/24
71-55-6	1,1,1-Trichloroethane	ND		45.3	50.0	110	46.2	105	8	70-149/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		45.3	34.7	77	35.6	81	3	45-121/33
79-00-5	1,1,2-Trichloroethane	ND		45.3	37.5	83	34.6	78	8	60-114/25
87-61-6	1,2,3-Trichlorobenzene	ND		45.3	41.8	92	40.4	91	3	24-135/31
96-18-4	1,2,3-Trichloropropane	ND		45.3	34.5	76	34.9	79	1	39-125/32
120-82-1	1,2,4-Trichlorobenzene	ND		45.3	43.9	97	42.3	96	4	23-142/31

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F40963
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F40963-3MS	G0039248.D	1	06/02/06	SH	n/a	n/a	VG1508
F40963-3MSD	G0039249.D	1	06/02/06	SH	n/a	n/a	VG1508
F40963-3	G0039246.D	1	06/02/06	SH	n/a	n/a	VG1508

The QC reported here applies to the following samples: Method: SW846 8260B

F40963-1, F40963-2, F40963-3, F40963-4

CAS No.	Compound	F40963-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		45.3	47.1	104	45.8	104	3	50-161/32
108-67-8	1,3,5-Trimethylbenzene	ND		45.3	49.2	109	45.6	103	8	57-164/31
127-18-4	Tetrachloroethylene	ND		45.3	40.8	90	38.5	87	6	54-154/27
108-88-3	Toluene	ND		45.3	45.5	100	40.4	91	12	62-142/29
79-01-6	Trichloroethylene	ND		45.3	48.3	107	44.2	100	9	59-143/25
75-69-4	Trichlorofluoromethane	ND		45.3	58.3	129	53.7	122	8	59-171/28
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		45.3	37.0	82	36.7	83	1	41-114/31
75-01-4	Vinyl chloride	ND		45.3	53.5	118	50.4	114	6	64-165/27
108-05-4	Vinyl Acetate	ND		226	169	75	176	80	4	13-113/42
	m,p-Xylene	ND		90.6	95.9	106	86.5	98	10	61-146/25
95-47-6	o-Xylene	ND		45.3	46.2	102	42.6	96	8	60-141/25

CAS No.	Surrogate Recoveries	MS	MSD	F40963-3	Limits
1868-53-7	Dibromofluoromethane	97%	99%	97%	78-123%
2037-26-5	Toluene-D8	97%	91%	90%	71-137%
460-00-4	4-Bromofluorobenzene	99%	99%	102%	61-157%
17060-07-0	1,2-Dichloroethane-D4	94%	95%	97%	74-125%

(a) Advisory control limits.

F41000

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

11/21/06

Technical Report for

Bhate Environmental Associates, Inc.

HOLMN

PROJECT # 9050360.01.08

Accutest Job Number: F41000

Sampling Date: 05/23/06

Report to:

Bhate Environmental Associates, Inc.
1608 13th Ave. South
Suite 300
Birmingham, AL 35205

ATTN: Mike D'Auben

Total number of pages in report: 25

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Sample Summary

Bhate Environmental Associates, Inc.

Job No: F41000

HOLMN
Project No: PROJECT # 9050360.01.08

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F41000-1	05/23/06	14:20	JMDH	05/25/06	SO	Soil	SS73-DP03-18
F41000-2	05/23/06	14:20	JMDH	05/25/06	SO	Soil	SS73-DP03-18-c

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Bhate Environmental Associates, Inc. **Job No:** F41000

Site: HOLMN **Report Date** 6/7/2006 8:52:04 AM

2 Samples were collected on 05/23/2006 and received at Accutest on 05/25/2006 properly preserved, at 2.8 Deg. C and intact. These Samples received an Accutest job number of F41000. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: SO **Batch ID:** VFI39

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F41209-1MS, F41209-1MSD were used as the QC samples indicated.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Date: June 07, 2006

Svetlana Izosimova, QAO (signature on file)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS73-DP03-18		
Lab Sample ID:	F41000-1	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/25/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F015901.D	1	06/05/06	WJ	n/a	n/a	VF139
Run #2							

	Initial Weight
Run #1	5.20 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	48	24	ug/kg	
75-05-8	Acetonitrile	ND	48	34	ug/kg	
107-02-8	Acrolein	ND	24	14	ug/kg	
107-13-1	Acrylonitrile	ND	24	12	ug/kg	
107-05-1	Allyl chloride	ND	24	4.8	ug/kg	
71-43-2	Benzene	ND	4.8	1.9	ug/kg	
100-44-7	Benzyl Chloride	ND	4.8	2.9	ug/kg	
108-86-1	Bromobenzene	ND	4.8	1.9	ug/kg	
74-97-5	Bromochloromethane	ND	4.8	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	4.8	1.9	ug/kg	
75-25-2	Bromoform	ND	4.8	1.9	ug/kg	
104-51-8	n-Butylbenzene	ND	4.8	2.9	ug/kg	
135-98-8	sec-Butylbenzene	ND	4.8	1.9	ug/kg	
98-06-6	tert-Butylbenzene	ND	4.8	1.9	ug/kg	
108-90-7	Chlorobenzene	ND	4.8	1.9	ug/kg	
75-00-3	Chloroethane	ND	4.8	2.9	ug/kg	
67-66-3	Chloroform	ND	4.8	1.9	ug/kg	
544-10-5	1-Chlorohexane	ND	4.8	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	4.8	1.9	ug/kg	
106-43-4	p-Chlorotoluene	ND	4.8	1.9	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	24	12	ug/kg	
75-15-0	Carbon disulfide	ND	4.8	1.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	4.8	1.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	4.8	1.9	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	4.8	1.9	ug/kg	
563-58-6	1,1-Dichloropropene	ND	4.8	1.9	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	4.8	2.9	ug/kg	
106-93-4	1,2-Dibromoethane	ND	4.8	1.9	ug/kg	
107-06-2	1,2-Dichloroethane	ND	4.8	1.9	ug/kg	
78-87-5	1,2-Dichloropropane	ND	4.8	1.9	ug/kg	
142-28-9	1,3-Dichloropropane	ND	4.8	1.9	ug/kg	
594-20-7	2,2-Dichloropropane	ND	4.8	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73-DP03-18		
Lab Sample ID:	F41000-1	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/25/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	4.8	1.9	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	4.8	2.9	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	4.8	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	4.8	1.9	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	24		ug/kg	
541-73-1	m-Dichlorobenzene	ND	4.8	1.9	ug/kg	
95-50-1	o-Dichlorobenzene	ND	4.8	1.9	ug/kg	
106-46-7	p-Dichlorobenzene	ND	4.8	1.9	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	4.8	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	4.8	1.9	ug/kg	
100-41-4	Ethylbenzene	ND	4.8	1.9	ug/kg	
97-63-2	Ethyl methacrylate	ND	24	4.8	ug/kg	
76-13-1	Freon 113	ND	4.8	1.9	ug/kg	
591-78-6	2-Hexanone	ND	24	9.6	ug/kg	
87-68-3	Hexachlorobutadiene	ND	4.8	1.9	ug/kg	
110-54-3	Hexane	ND	4.8	2.9	ug/kg	
98-82-8	Isopropylbenzene	ND	4.8	1.9	ug/kg	
99-87-6	p-Isopropyltoluene	ND	4.8	1.9	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	24	9.6	ug/kg	
126-98-7	Methacrylonitrile	ND	24	9.6	ug/kg	
74-83-9	Methyl bromide	ND	4.8	1.9	ug/kg	
74-87-3	Methyl chloride	ND	4.8	1.9	ug/kg	
74-88-4	Methyl iodide	ND	9.6	1.9	ug/kg	
80-62-6	Methyl methacrylate	ND	24	4.8	ug/kg	
74-95-3	Methylene bromide	ND	4.8	1.9	ug/kg	
75-09-2	Methylene chloride	ND	9.6	4.8	ug/kg	
78-93-3	Methyl ethyl ketone	ND	24	9.6	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.8	1.9	ug/kg	
91-20-3	Naphthalene	ND	4.8	1.9	ug/kg	
76-01-7	Pentachloroethane	ND	24	4.8	ug/kg	
107-12-0	Propionitrile	ND	48	9.6	ug/kg	
103-65-1	n-Propylbenzene	ND	4.8	1.9	ug/kg	
100-42-5	Styrene	ND	4.8	1.9	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	4.8	1.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	4.8	1.9	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.8	1.9	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	4.8	1.9	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	4.8	1.9	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	4.8	2.4	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73-DP03-18		
Lab Sample ID:	F41000-1	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/25/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	4.8	2.9	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	4.8	1.9	ug/kg	
127-18-4	Tetrachloroethylene	ND	4.8	1.9	ug/kg	
108-88-3	Toluene	ND	4.8	1.9	ug/kg	
79-01-6	Trichloroethylene	ND	4.8	1.9	ug/kg	
75-69-4	Trichlorofluoromethane	ND	4.8	1.9	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	24	9.6	ug/kg	
75-01-4	Vinyl chloride	ND	4.8	1.9	ug/kg	
108-05-4	Vinyl Acetate	ND	24	9.6	ug/kg	
	m,p-Xylene	ND	9.6	2.9	ug/kg	
95-47-6	o-Xylene	ND	4.8	1.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		78-123%
2037-26-5	Toluene-D8	102%		71-137%
460-00-4	4-Bromofluorobenzene	102%		61-157%
17060-07-0	1,2-Dichloroethane-D4	102%		74-125%

(a) Percent solids not analyzed due to sample matrix. Results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS73-DP03-18-c		
Lab Sample ID:	F41000-2	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/25/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F015908.D	1	06/05/06	WJ	n/a	n/a	VF139
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
75-05-8	Acetonitrile	ND	50	35	ug/kg	
107-02-8	Acrolein	ND	25	15	ug/kg	
107-13-1	Acrylonitrile	ND	25	13	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	3.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	2.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	2.0	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	2.0	ug/kg	
75-25-2	Bromoform	ND	5.0	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	3.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	2.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	3.0	ug/kg	
67-66-3	Chloroform	ND	5.0	2.0	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	2.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	2.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	13	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	2.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	2.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	3.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	2.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.0	ug/kg	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73-DP03-18-c		
Lab Sample ID:	F41000-2	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/25/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	3.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.0	ug/kg	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25		ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	2.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	2.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	2.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	2.0	ug/kg	
591-78-6	2-Hexanone	ND	25	10	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	3.0	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	2.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	2.0	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	10	ug/kg	
126-98-7	Methacrylonitrile	ND	25	10	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	2.0	ug/kg	
80-62-6	Methyl methacrylate	ND	25	5.0	ug/kg	
74-95-3	Methylene bromide	ND	5.0	2.0	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	10	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	10	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	2.0	ug/kg	
100-42-5	Styrene	ND	5.0	2.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	2.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73-DP03-18-c		
Lab Sample ID:	F41000-2	Date Sampled:	05/23/06
Matrix:	SO - Soil	Date Received:	05/25/06
Method:	SW846 8260B	Percent Solids:	n/a [a]
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	3.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	2.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	2.0	ug/kg	
108-88-3	Toluene	ND	5.0	2.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	2.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	10	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	10	ug/kg	
	m,p-Xylene	ND	10	3.0	ug/kg	
95-47-6	o-Xylene	ND	5.0	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		78-123%
2037-26-5	Toluene-D8	100%		71-137%
460-00-4	4-Bromofluorobenzene	101%		61-157%
17060-07-0	1,2-Dichloroethane-D4	93%		74-125%

(a) Percent solids not analyzed due to sample matrix. Results reported on wet weight basis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F41000

CLIENT INFORMATION

NAME: Bhate Environmental
ADDRESS: 1641 Vandergrift Rd
CITY, STATE, ZIP: Holloman AFB, NM 88330
SEND REPORT TO:
PHONE #: 505. 491 2475

FACILITY INFORMATION

PROJECT NAME: Holloman AFB
LOCATION: SS-72
PROJECT NO.: 9050360.01.08
FAX #: 505.679.2148

ANALYTICAL INFORMATION

VOCS 8260

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	VOCS 8260	LAB USE ONLY
1	SS72-DP03-18	5/23/06	1420	JM/DH	SO	3						X	
2	SS72-DP03-18-C	5/23/06	1420			3						X	

DATA TURNAROUND INFORMATION

- [x] STANDARD
- [ ] 48 HOUR RUSH
- [ ] 24 HOUR EMERGENCY
- [ ] OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [x] STANDARD
- [ ] COMMERCIAL "B"
- [ ] DISK DELIVERABLE
- [ ] STATE FORMS
- [ ] OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1.	5/24/06 1330	1.	2.	05/26/06 0800	2.
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL #	PRESERVE WHERE APPLICABLE [ ]	ON ICE [ ] 2.8° C TEMPERATURE

4.1 4

F41000: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F41000 CLIENT: BHAFC PROJECT: Holloman AFB

DATE/TIME RECEIVED: 05/25/06-0900 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2.8°

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8574 8739 7119

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [x] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DON'T MATCH LABEL
- [ ] ID'S ON COC DON'T MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [x] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

MISC. INFORMATION

NUMBER OF ENCORES ? 1

NUMBER OF 5035 FIELD KITS ? 2

NUMBER OR LAB FILTERED METALS ? 2

SUMMARY OF COMMENTS:

No % Solids Jar Received

TECHNICIAN SIGNATURE/DATE [signature] 05/25/06 TECHNICIAN SIGNATURE/DATE

4.1 4

F41000: Chain of Custody
Page 2 of 3

Job Change Order: F41000_5/25/2006

Requested Date:	5/25/2006	**Received Date:**	5/25/2006
Account Name:	Bhate Environmental Associates,	**Due Date:**	6/8/2006
Project Description:	HOLMN	**Deliverable:**	COMMBN
CSR:	SB	**TAT (Days):**	14

Sample #:
F41000-all

Change: No dry wt jars were received for samples. Per Kevin@ Bhate via e-mail and Jim Moore@ Bhate via phone, 05.25.06, samples were to be reported on an as received basis.

Above Changes Per: Kevin@Bhate **Date:** 5/25/2006

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF139-MB	F015889.D	1	06/05/06	WJ	n/a	n/a	VF139

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
75-05-8	Acetonitrile	ND	50	35	ug/kg	
107-02-8	Acrolein	ND	25	15	ug/kg	
107-13-1	Acrylonitrile	ND	25	13	ug/kg	
107-05-1	Allyl chloride	ND	25	5.0	ug/kg	
71-43-2	Benzene	ND	5.0	2.0	ug/kg	
100-44-7	Benzyl Chloride	ND	5.0	3.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	2.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	2.0	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	2.0	ug/kg	
75-25-2	Bromoform	ND	5.0	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	3.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	2.0	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	3.0	ug/kg	
67-66-3	Chloroform	ND	5.0	2.0	ug/kg	
544-10-5	1-Chlorohexane	ND	5.0	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	2.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	2.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	13	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	2.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	2.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	2.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	3.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	2.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.0	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	3.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.0	ug/kg	

Method Blank Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF139-MB	F015889.D	1	06/05/06	WJ	n/a	n/a	VF139

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	25		ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	2.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	2.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	2.0	ug/kg	
97-63-2	Ethyl methacrylate	ND	25	5.0	ug/kg	
76-13-1	Freon 113	ND	5.0	2.0	ug/kg	
591-78-6	2-Hexanone	ND	25	10	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	2.0	ug/kg	
110-54-3	Hexane	ND	5.0	3.0	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	2.0	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	2.0	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	10	ug/kg	
126-98-7	Methacrylonitrile	ND	25	10	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.0	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.0	ug/kg	
74-88-4	Methyl iodide	ND	10	2.0	ug/kg	
80-62-6	Methyl methacrylate	ND	25	5.0	ug/kg	
74-95-3	Methylene bromide	ND	5.0	2.0	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	10	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.0	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
76-01-7	Pentachloroethane	ND	25	5.0	ug/kg	
107-12-0	Propionitrile	ND	50	10	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	2.0	ug/kg	
100-42-5	Styrene	ND	5.0	2.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	2.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.0	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.0	2.5	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	

Method Blank Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF139-MB	F015889.D	1	06/05/06	WJ	n/a	n/a	VF139

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	3.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	2.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	2.0	ug/kg	
108-88-3	Toluene	ND	5.0	2.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	2.0	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	25	10	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	10	ug/kg	
	m,p-Xylene	ND	10	3.0	ug/kg	
95-47-6	o-Xylene	ND	5.0	2.0	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	78-123%
2037-26-5	Toluene-D8	100%	71-137%
460-00-4	4-Bromofluorobenzene	101%	61-157%
17060-07-0	1,2-Dichloroethane-D4	97%	74-125%

Blank Spike Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF139-BS	F015888.D	1	06/05/06	WJ	n/a	n/a	VF139

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	250	228	91	51-136
75-05-8	Acetonitrile	500	424	85	50-150 [a]
107-02-8	Acrolein	250	345	138	28-180
107-13-1	Acrylonitrile	250	257	103	43-151
107-05-1	Allyl chloride	50	40.1	80	50-150 [a]
71-43-2	Benzene	50	46.8	94	74-124
100-44-7	Benzyl Chloride	50	48.8	98	50-150 [a]
108-86-1	Bromobenzene	50	48.0	96	78-117
74-97-5	Bromochloromethane	50	44.1	88	77-126
75-27-4	Bromodichloromethane	50	43.8	88	74-124
75-25-2	Bromoform	50	45.3	91	79-127
104-51-8	n-Butylbenzene	50	50.3	101	75-131
135-98-8	sec-Butylbenzene	50	52.5	105	78-128
98-06-6	tert-Butylbenzene	50	50.3	101	76-126
108-90-7	Chlorobenzene	50	48.2	96	78-117
75-00-3	Chloroethane	50	50.7	101	63-147
67-66-3	Chloroform	50	47.1	94	75-121
544-10-5	1-Chlorohexane	50	55.2	110	76-137
95-49-8	o-Chlorotoluene	50	48.6	97	79-124
106-43-4	p-Chlorotoluene	50	49.3	99	79-124
110-75-8	2-Chloroethyl vinyl ether	250	120	48	31-165
75-15-0	Carbon disulfide	50	53.2	106	59-148
56-23-5	Carbon tetrachloride	50	51.5	103	67-131
75-34-3	1,1-Dichloroethane	50	47.9	96	71-118
75-35-4	1,1-Dichloroethylene	50	49.1	98	64-126
563-58-6	1,1-Dichloropropene	50	50.4	101	73-132
96-12-8	1,2-Dibromo-3-chloropropane	50	44.2	88	71-128
106-93-4	1,2-Dibromoethane	50	44.1	88	78-117
107-06-2	1,2-Dichloroethane	50	45.9	92	72-120
78-87-5	1,2-Dichloropropane	50	47.5	95	74-126
142-28-9	1,3-Dichloropropane	50	44.6	89	77-117
594-20-7	2,2-Dichloropropane	50	50.7	101	66-126
124-48-1	Dibromochloromethane	50	44.9	90	78-120
75-71-8	Dichlorodifluoromethane	50	61.3	123	33-172
156-59-2	cis-1,2-Dichloroethylene	50	45.5	91	75-124
10061-01-5	cis-1,3-Dichloropropene	50	47.8	96	72-120

Blank Spike Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF139-BS	F015888.D	1	06/05/06	WJ	n/a	n/a	VF139

5.2 5

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	50	50.0	100	50-150 [a]
541-73-1	m-Dichlorobenzene	50	49.8	100	79-119
95-50-1	o-Dichlorobenzene	50	48.6	97	78-119
106-46-7	p-Dichlorobenzene	50	49.1	98	78-117
156-60-5	trans-1,2-Dichloroethylene	50	47.6	95	70-122
10061-02-6	trans-1,3-Dichloropropene	50	50.2	100	75-118
100-41-4	Ethylbenzene	50	47.0	94	77-120
97-63-2	Ethyl methacrylate	50	46.7	93	50-150 [a]
76-13-1	Freon 113	50	61.7	123	66-147
591-78-6	2-Hexanone	250	224	90	68-136
87-68-3	Hexachlorobutadiene	50	50.3	101	69-139
110-54-3	Hexane	50	56.0	112	55-166
98-82-8	Isopropylbenzene	50	52.6	105	79-134
99-87-6	p-Isopropyltoluene	50	50.8	102	80-134
108-10-1	4-Methyl-2-pentanone	250	223	89	69-136
126-98-7	Methacrylonitrile	500	465	93	50-150 [a]
74-83-9	Methyl bromide	50	51.0	102	52-156
74-87-3	Methyl chloride	50	51.3	103	63-142
74-88-4	Methyl iodide	50	48.4	97	65-133
80-62-6	Methyl methacrylate	50	45.7	91	63-143
74-95-3	Methylene bromide	50	46.2	92	74-121
75-09-2	Methylene chloride	50	46.6	93	51-142
78-93-3	Methyl ethyl ketone	250	226	90	63-138
1634-04-4	Methyl Tert Butyl Ether	50	46.1	92	77-131
91-20-3	Naphthalene	50	45.4	91	75-134
76-01-7	Pentachloroethane	50	50.5	101	50-150 [a]
107-12-0	Propionitrile	500	471	94	50-150 [a]
103-65-1	n-Propylbenzene	50	51.8	104	77-125
100-42-5	Styrene	50	47.5	95	74-120
630-20-6	1,1,1,2-Tetrachloroethane	50	46.7	93	76-118
71-55-6	1,1,1-Trichloroethane	50	49.7	99	70-131
79-34-5	1,1,2,2-Tetrachloroethane	50	47.1	94	76-121
79-00-5	1,1,2-Trichloroethane	50	44.4	89	77-118
87-61-6	1,2,3-Trichlorobenzene	50	47.7	95	76-129
96-18-4	1,2,3-Trichloropropane	50	48.0	96	75-121
120-82-1	1,2,4-Trichlorobenzene	50	48.6	97	73-128

Blank Spike Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF139-BS	F015888.D	1	06/05/06	WJ	n/a	n/a	VF139

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	50	49.9	100	79-121
108-67-8	1,3,5-Trimethylbenzene	50	50.7	101	78-126
127-18-4	Tetrachloroethylene	50	51.3	103	68-127
108-88-3	Toluene	50	46.7	93	74-118
79-01-6	Trichloroethylene	50	47.9	96	72-122
75-69-4	Trichlorofluoromethane	50	64.0	128	60-147
110-57-6	Trans-1,4-Dichloro-2-Butene	50	51.5	103	68-131
75-01-4	Vinyl chloride	50	53.9	108	64-144
108-05-4	Vinyl Acetate	250	273	109	47-132
	m,p-Xylene	100	95.7	96	79-122
95-47-6	o-Xylene	50	48.1	96	75-123

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	78-123%
2037-26-5	Toluene-D8	97%	71-137%
460-00-4	4-Bromofluorobenzene	99%	61-157%
17060-07-0	1,2-Dichloroethane-D4	98%	74-125%

(a) Advisory control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41209-1MS	F015891.D	1	06/05/06	WJ	n/a	n/a	VF139
F41209-1MSD	F015892.D	1	06/05/06	WJ	n/a	n/a	VF139
F41209-1	F015890.D	1	06/05/06	WJ	n/a	n/a	VF139

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	F41209-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	3500 U		17600	10500	60	10600	60	1	14-140/33
75-05-8	Acetonitrile	3500 U		35300	24300	69	21400	61	13	50-150/30 [a]
107-02-8	Acrolein	1800 U		17600	19300	109	20400	116	6	20-144/42
107-13-1	Acrylonitrile	1800 U		17600	13800	78	13800	78	0	22-116/31
107-05-1	Allyl chloride	1800 U		3530	2960	84	3160	90	7	50-150/30 [a]
71-43-2	Benzene	350 U		3530	3400	96	3510	99	3	63-135/23
100-44-7	Benzyl Chloride	350 U		3530	2770	78	2770	78	0	50-150/30 [a]
108-86-1	Bromobenzene	350 U		3530	3290	93	3510	99	6	56-145/30
74-97-5	Bromochloromethane	350 U		3530	2920	83	3040	86	4	64-120/23
75-27-4	Bromodichloromethane	350 U		3530	2940	83	3060	87	4	63-126/23
75-25-2	Bromoform	350 U		3530	2690	76	2620	74	3	54-109/24
104-51-8	n-Butylbenzene	350 U		3530	4030	114	4170	118	3	45-159/32
135-98-8	sec-Butylbenzene	350 U		3530	3940	112	4070	115	3	54-164/31
98-06-6	tert-Butylbenzene	350 U		3530	3760	107	3980	113	6	60-161/30
108-90-7	Chlorobenzene	350 U		3530	3460	98	3520	100	2	64-130/24
75-00-3	Chloroethane	350 U		3530	3740	106	3960	112	6	53-172/28
67-66-3	Chloroform	350 U		3530	3390	96	3540	100	4	68-131/24
544-10-5	1-Chlorohexane	350 U		3530	4160	118	4060	115	2	52-162/26
95-49-8	o-Chlorotoluene	350 U		3530	3530	100	3680	104	4	59-162/32
106-43-4	p-Chlorotoluene	350 U		3530	3620	103	3820	108	5	59-155/29
110-75-8	2-Chloroethyl vinyl ether	1800 U		17600	9650	55	9230	52	4	16-159/31
75-15-0	Carbon disulfide	350 U		3530	3670	104	3940	112	7	47-165/29
56-23-5	Carbon tetrachloride	350 U		3530	3550	101	3680	104	4	64-148/24
75-34-3	1,1-Dichloroethane	350 U		3530	3500	99	3600	102	3	64-130/25
75-35-4	1,1-Dichloroethylene	350 U		3530	3600	102	3780	107	5	55-149/28
563-58-6	1,1-Dichloropropene	350 U		3530	3670	104	3740	106	2	67-148/25
96-12-8	1,2-Dibromo-3-chloropropane	350 U		3530	2320	66	2410	68	4	39-105/33
106-93-4	1,2-Dibromoethane	350 U		3530	2700	77	2740	78	1	55-107/24
107-06-2	1,2-Dichloroethane	350 U		3530	2820	80	2950	84	5	60-114/22
78-87-5	1,2-Dichloropropane	350 U		3530	3300	94	3420	97	4	65-128/23
142-28-9	1,3-Dichloropropane	350 U		3530	2900	82	2900	82	0	58-114/25
594-20-7	2,2-Dichloropropane	350 U		3530	3480	99	3530	100	1	60-144/27
124-48-1	Dibromochloromethane	350 U		3530	2920	83	2910	82	0	60-119/23
75-71-8	Dichlorodifluoromethane	350 U		3530	3930	111	4280	121	9	41-185/30
156-59-2	cis-1,2-Dichloroethylene	350 U		3530	3200	91	3370	96	5	66-132/24
10061-01-5	cis-1,3-Dichloropropene	350 U		3530	3190	90	3240	92	2	57-118/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41209-1MS	F015891.D	1	06/05/06	WJ	n/a	n/a	VF139
F41209-1MSD	F015892.D	1	06/05/06	WJ	n/a	n/a	VF139
F41209-1	F015890.D	1	06/05/06	WJ	n/a	n/a	VF139

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	F41209-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	1800 U		3530	2740	78	2770	78	1	50-150/30 [a]
541-73-1	m-Dichlorobenzene	350 U		3530	3660	104	3770	107	3	59-138/28
95-50-1	o-Dichlorobenzene	350 U		3530	3380	96	3630	103	7	56-128/27
106-46-7	p-Dichlorobenzene	350 U		3530	3560	101	3670	104	3	57-134/26
156-60-5	trans-1,2-Dichloroethylene	350 U		3530	3590	102	3760	107	5	63-137/27
10061-02-6	trans-1,3-Dichloropropene	350 U		3530	3300	94	3340	95	1	58-115/25
100-41-4	Ethylbenzene	350 U		3530	3420	97	3550	101	4	63-142/25
97-63-2	Ethyl methacrylate	1800 U		3530	2810	80	2830	80	1	50-150/30 [a]
76-13-1	Freon 113	350 U		3530	4180	118	4550	129	8	61-169/28
591-78-6	2-Hexanone	1800 U		17600	11600	66	11300	64	3	35-109/34
87-68-3	Hexachlorobutadiene	350 U		3530	3790	107	4040	114	6	17-160/37
110-54-3	Hexane	350 U		3530	4150	118	4300	122	4	28-170/32
98-82-8	Isopropylbenzene	350 U		3530	3950	112	3890	110	2	59-177/29
99-87-6	p-Isopropyltoluene	350 U		3530	3800	108	4010	114	5	53-168/31
108-10-1	4-Methyl-2-pentanone	1800 U		17600	12400	70	11800	67	5	44-99/32
126-98-7	Methacrylonitrile	1800 U		35300	25200	71	25200	71	0	50-150/30 [a]
74-83-9	Methyl bromide	350 U		3530	3280	93	3330	94	2	38-188/27
74-87-3	Methyl chloride	350 U		3530	3280	93	3710	105	12	57-160/29
74-88-4	Methyl iodide	710 U		3530	3590	102	3890	110	8	52-150/30
80-62-6	Methyl methacrylate	1800 U		3530	2530	72	2510	71	1	56-106/27
74-95-3	Methylene bromide	350 U		3530	2830	80	2900	82	2	56-109/24
75-09-2	Methylene chloride	710 U		3530	3340	95	3460	98	4	40-183/34
78-93-3	Methyl ethyl ketone	1800 U		17600	10900	62	10600	60	3	27-112/32
1634-04-4	Methyl Tert Butyl Ether	350 U		3530	3010	85	3100	88	3	53-122/28
91-20-3	Naphthalene	350 U		3530	2650	75	2710	77	2	20-116/35
76-01-7	Pentachloroethane	1800 U		3530	3510	99	3640	103	4	50-150/30 [a]
107-12-0	Propionitrile	3500 U		35300	23200	66	23200	66	0	50-150/30 [a]
103-65-1	n-Propylbenzene	350 U		3530	3740	106	3970	113	6	59-163/31
100-42-5	Styrene	350 U		3530	3460	98	3380	96	2	54-130/26
630-20-6	1,1,1,2-Tetrachloroethane	350 U		3530	3310	94	3240	92	2	64-131/24
71-55-6	1,1,1-Trichloroethane	350 U		3530	3430	97	3560	101	4	70-149/25
79-34-5	1,1,2,2-Tetrachloroethane	350 U		3530	2840	80	2940	83	3	45-121/33
79-00-5	1,1,2-Trichloroethane	350 U		3530	2970	84	2860	81	4	60-114/25
87-61-6	1,2,3-Trichlorobenzene	350 U		3530	3240	92	3370	96	4	24-135/31
96-18-4	1,2,3-Trichloropropane	350 U		3530	2660	75	2760	78	4	39-125/32
120-82-1	1,2,4-Trichlorobenzene	350 U		3530	3500	99	3710	105	6	23-142/31

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41000
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41209-1MS	F015891.D	1	06/05/06	WJ	n/a	n/a	VF139
F41209-1MSD	F015892.D	1	06/05/06	WJ	n/a	n/a	VF139
F41209-1	F015890.D	1	06/05/06	WJ	n/a	n/a	VF139

The QC reported here applies to the following samples: Method: SW846 8260B

F41000-1, F41000-2

CAS No.	Compound	F41209-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	350 U		3530	3690	105	3910	111	6	50-161/32
108-67-8	1,3,5-Trimethylbenzene	350 U		3530	3740	106	3950	112	5	57-164/31
127-18-4	Tetrachloroethylene	350 U		3530	3680	104	3900	111	6	54-154/27
108-88-3	Toluene	350 U		3530	3460	98	3500	99	1	62-142/29
79-01-6	Trichloroethylene	350 U		3530	3440	97	3470	98	1	59-143/25
75-69-4	Trichlorofluoromethane	350 U		3530	4120	117	4110	116	0	59-171/28
110-57-6	Trans-1,4-Dichloro-2-Butene	1800 U		3530	2790	79	2950	84	6	41-114/31
75-01-4	Vinyl chloride	350 U		3530	3260	92	3750	106	14	64-165/27
108-05-4	Vinyl Acetate	1800 U		17600	16700	95	16800	95	1	13-113/42
	m,p-Xylene	710 U		7060	7130	101	7180	102	1	61-146/25
95-47-6	o-Xylene	350 U		3530	3620	103	3510	99	3	60-141/25

CAS No.	Surrogate Recoveries	MS	MSD	F41209-1	Limits
1868-53-7	Dibromofluoromethane	96%	98%	105%	78-123%
2037-26-5	Toluene-D8	102%	100%	99%	71-137%
460-00-4	4-Bromofluorobenzene	100%	101%	101%	61-157%
17060-07-0	1,2-Dichloroethane-D4	88%	86%	101%	74-125%

(a) Advisory control limits.

F41149

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

11/21/06

Technical Report for

Bhate Environmental Associates, Inc.

HOLMN

PROJECT # 9050360.01.08

Accutest Job Number: F41149

Sampling Date: 05/31/06

Report to:

Bhate Environmental Associates, Inc.
1608 13th Ave. South
Suite 300
Birmingham, AL 35205

ATTN: Mike D'Auben

Total number of pages in report: 32

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Sample Summary

Bhate Environmental Associates, Inc.

Job No: F41149

HOLMN
Project No: PROJECT # 9050360.01.08

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F41149-1	05/31/06	08:30 TL	06/01/06	AQ	Ground Water	SS73DP01
F41149-2	05/31/06	10:00 TL	06/01/06	AQ	Ground Water	SS73DP02
F41149-3	05/31/06	00:00 TL	06/01/06	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Bhate Environmental Associates, Inc. **Job No:** F41149

Site: HOLMN **Report Date** 6/14/2006 9:07:34 AM

2 Samples, 1 Trip Blank were collected on 05/31/2006 and received at Accutest on 06/01/2006 properly preserved, at 2.6 Deg. C and intact. These Samples received an Accutest job number of F41149. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** VJ951

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F41148-2MS, F41148-2MSD were used as the QC samples indicated.

MS/MSD Recovery for 2-Chloroethyl vinyl ether affected by preservation Refer to Blank Spike.

MS and/or MSD Recovery for cis-1,4-Dichloro-2-butene, Chloroethane, Methyl methacrylate are outside control limits. Probable cause due to matrix interference.

RPD(s) for MSD for Trans-1,4-Dichloro-2-Butene are outside control limits for sample F41148-2MSD. Probable cause due to sample homogeneity.

Wet Chemistry By Method EPA 160.1

Matrix: AQ **Batch ID:** GN20895

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F41149-1DUP were used as the QC samples for Solids, Total Dissolved.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Date: June 14, 2006

Svetlana Izosimova, QAO (signature on file)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS73DP01		
Lab Sample ID:	F41149-1	Date Sampled:	05/31/06
Matrix:	AQ - Ground Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J023137.D	1	06/12/06	MM	n/a	n/a	VJ951
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
75-05-8	Acetonitrile	ND	20	10	ug/l	
107-02-8	Acrolein	ND	20	10	ug/l	
107-13-1	Acrylonitrile	ND	10	5.0	ug/l	
107-05-1	Allyl chloride	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-44-7	Benzyl Chloride	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP01		
Lab Sample ID:	F41149-1	Date Sampled:	05/31/06
Matrix:	AQ - Ground Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10		ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	2.0	ug/l	
76-13-1	Freon 113	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
126-98-7	Methacrylonitrile	ND	20	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-88-4	Methyl iodide	ND	5.0	2.5	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	2.5	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	2.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	5.0	ug/l	
107-12-0	Propionitrile	ND	20	10	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP01		
Lab Sample ID:	F41149-1	Date Sampled:	05/31/06
Matrix:	AQ - Ground Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
	m,p-Xylene	ND	2.0	0.50	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		86-115%
17060-07-0	1,2-Dichloroethane-D4	107%		73-126%
2037-26-5	Toluene-D8	92%		86-112%
460-00-4	4-Bromofluorobenzene	108%		83-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS73DP01		
Lab Sample ID:	F41149-1	Date Sampled:	05/31/06
Matrix:	AQ - Ground Water	Date Received:	06/01/06
		Percent Solids:	n/a
Project:	HOLMN		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	11500	100	10	mg/l	1	06/02/06 10:50	LE	EPA 160.1

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result >= MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS73DP02		
Lab Sample ID:	F41149-2	Date Sampled:	05/31/06
Matrix:	AQ - Ground Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J023138.D	1	06/12/06	MM	n/a	n/a	VJ951
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
75-05-8	Acetonitrile	ND	20	10	ug/l	
107-02-8	Acrolein	ND	20	10	ug/l	
107-13-1	Acrylonitrile	ND	10	5.0	ug/l	
107-05-1	Allyl chloride	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-44-7	Benzyl Chloride	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	4.7	1.0	0.50	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP02		
Lab Sample ID:	F41149-2	Date Sampled:	05/31/06
Matrix:	AQ - Ground Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10		ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	2.0	ug/l	
76-13-1	Freon 113	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
126-98-7	Methacrylonitrile	ND	20	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-88-4	Methyl iodide	ND	5.0	2.5	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	2.5	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	2.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	5.0	ug/l	
107-12-0	Propionitrile	ND	20	10	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP02		
Lab Sample ID:	F41149-2	Date Sampled:	05/31/06
Matrix:	AQ - Ground Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
	m,p-Xylene	ND	2.0	0.50	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	107%		73-126%
2037-26-5	Toluene-D8	92%		86-112%
460-00-4	4-Bromofluorobenzene	107%		83-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS73DP02		
Lab Sample ID:	F41149-2	Date Sampled:	05/31/06
Matrix:	AQ - Ground Water	Date Received:	06/01/06
		Percent Solids:	n/a
Project:	HOLMN		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	8970	100	10	mg/l	1	06/02/06 10:50	LE	EPA 160.1

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result >= MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F41149-3	Date Sampled:	05/31/06
Matrix:	AQ - Trip Blank Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J023139.D	1	06/12/06	MM	n/a	n/a	VJ951
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
75-05-8	Acetonitrile	ND	20	10	ug/l	
107-02-8	Acrolein	ND	20	10	ug/l	
107-13-1	Acrylonitrile	ND	10	5.0	ug/l	
107-05-1	Allyl chloride	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-44-7	Benzyl Chloride	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F41149-3	Date Sampled:	05/31/06
Matrix:	AQ - Trip Blank Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10		ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	2.0	ug/l	
76-13-1	Freon 113	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
126-98-7	Methacrylonitrile	ND	20	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-88-4	Methyl iodide	ND	5.0	2.5	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	2.5	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.50	ug/l	
75-09-2	Methylene chloride	4.6	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	2.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	5.0	ug/l	
107-12-0	Propionitrile	ND	20	10	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F41149-3	Date Sampled:	05/31/06
Matrix:	AQ - Trip Blank Water	Date Received:	06/01/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
	m,p-Xylene	ND	2.0	0.50	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	106%		73-126%
2037-26-5	Toluene-D8	91%		86-112%
460-00-4	4-Bromofluorobenzene	106%		83-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F41149

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9050360.01.08

P.O. _____

Chain of Custody Number [1]: 31520061

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: T Lucero

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning		SA Code (2)	Sample Numb	Sample Matri	Number of containers	VOC	TDS							Matrix Description	Trip Blank Lot Control Number	Cooler ID
											Sample Analysis Requested [3]								Quality Assurance Samples [6]		
1	SS72DP01	SS72DP01	3152006	830	0	0	N	1	AQ	4	[illegible]	[illegible]							SS72 [illegible]		1
2	SS72DP02	SS72DP02	3152006	1000	0	0	N	1	AQ	4	[illegible]	[illegible]							SS72 Well		1
3	Trip Blank	Field QC					TB			1	[illegible]										1

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (signed)	Date	Time	Received by (signed)	Date	Time
1.	[illegible]	3/31/2006	1600	1. [illegible]		
2.	[illegible]			2. [illegible] Courier	4-1-06	9:00
3.				3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Accutest Delivery Location: Orlando FL

Lab Recipient: _____ Delivery Date/Time: _____

2.6

1) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2) Sample Type (SA) Codes: N = Normal Sample, TD = Trip Blank (-t) Sample, FD = Field Duplicate (-1) Sample, FR = Field Replicate (-k) Sample, EB = Equipment Blank (-d) Sample, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-a)

3) Sample Number: Unique sample number reflected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4) Matrix Codes: OS = Soil Gas, WG = Groundwater, WS = Surface Water, BO = Soil, SD = Sediment, SL = Sludge, SB = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5) Sample Analysis Requested: Analytical method requested and number of containers provided for each

6) Quality assurance samples are assigned by date (delivery) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

4.1 4

F41149: Chain of Custody
Page 1 of 2

ACCUTEST.

F41149

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F41149 CLIENT: BHate PROJECT: Spill Site 61

DATE/TIME RECEIVED: 6-1-06/9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2.6

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8574-8739-6682

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [X] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [X] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DON'T MATCH LABEL
- [ ] ID'S ON COC DON'T MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OR LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE Steven Conroy/6-1-06 TECHNICIAN SIGNATURE/DATE

4.1 4

F41149: Chain of Custody
Page 2 of 2

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-MB	J023120.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
75-05-8	Acetonitrile	ND	20	10	ug/l	
107-02-8	Acrolein	ND	20	10	ug/l	
107-13-1	Acrylonitrile	ND	10	5.0	ug/l	
107-05-1	Allyl chloride	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-44-7	Benzyl Chloride	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	

Method Blank Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-MB	J023120.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10		ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	2.0	ug/l	
76-13-1	Freon 113	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
126-98-7	Methacrylonitrile	ND	20	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-88-4	Methyl iodide	ND	5.0	2.5	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	2.5	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	1.2	2.0	1.0	ug/l	J
76-01-7	Pentachloroethane	ND	10	5.0	ug/l	
107-12-0	Propionitrile	ND	20	10	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

Method Blank Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-MB	J023120.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
	m,p-Xylene	ND	2.0	0.50	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	86-115%
17060-07-0	1,2-Dichloroethane-D4	100%	73-126%
2037-26-5	Toluene-D8	95%	86-112%
460-00-4	4-Bromofluorobenzene	99%	83-119%

Blank Spike Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-BS	J023119.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	75.1	60	44-142
75-05-8	Acetonitrile	250	215	86	50-150 [a]
107-02-8	Acrolein	125	133	106	32-168
107-13-1	Acrylonitrile	125	102	82	35-130
107-05-1	Allyl chloride	25	24.0	96	50-150 [a]
71-43-2	Benzene	25	26.2	105	80-120
100-44-7	Benzyl Chloride	25	20.6	82	50-150 [a]
108-86-1	Bromobenzene	25	24.9	100	76-114
74-97-5	Bromochloromethane	25	24.7	99	75-121
75-27-4	Bromodichloromethane	25	24.7	99	75-120
75-25-2	Bromoform	25	25.6	102	60-129
104-51-8	n-Butylbenzene	25	25.7	103	76-122
135-98-8	sec-Butylbenzene	25	26.6	106	84-122
98-06-6	tert-Butylbenzene	25	25.8	103	77-124
108-90-7	Chlorobenzene	25	25.2	101	82-112
75-00-3	Chloroethane	25	29.0	116	67-148
67-66-3	Chloroform	25	26.3	105	78-118
544-10-5	1-Chlorohexane	25	25.6	102	82-130
95-49-8	o-Chlorotoluene	25	24.0	96	80-121
106-43-4	p-Chlorotoluene	25	24.6	98	78-120
110-75-8	2-Chloroethyl vinyl ether	125	121	97	23-132
75-15-0	Carbon disulfide	25	28.0	112	65-147
56-23-5	Carbon tetrachloride	25	29.3	117	69-137
75-34-3	1,1-Dichloroethane	25	25.6	102	75-117
75-35-4	1,1-Dichloroethylene	25	25.2	101	67-134
563-58-6	1,1-Dichloropropene	25	27.5	110	84-127
96-12-8	1,2-Dibromo-3-chloropropane	25	20.5	82	54-125
106-93-4	1,2-Dibromoethane	25	23.5	94	68-116
107-06-2	1,2-Dichloroethane	25	24.0	96	68-121
78-87-5	1,2-Dichloropropane	25	23.9	96	78-122
142-28-9	1,3-Dichloropropane	25	22.7	91	72-116
594-20-7	2,2-Dichloropropane	25	27.8	111	68-134
124-48-1	Dibromochloromethane	25	23.9	96	68-118
75-71-8	Dichlorodifluoromethane	25	27.0	108	43-173
156-59-2	cis-1,2-Dichloroethylene	25	24.6	98	81-120
10061-01-5	cis-1,3-Dichloropropene	25	25.9	104	73-115

Blank Spike Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-BS	J023119.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	25	23.9	96	50-150 [a]
541-73-1	m-Dichlorobenzene	25	24.8	99	78-116
95-50-1	o-Dichlorobenzene	25	24.1	96	77-115
106-46-7	p-Dichlorobenzene	25	24.4	98	77-113
156-60-5	trans-1,2-Dichloroethylene	25	25.0	100	74-125
10061-02-6	trans-1,3-Dichloropropene	25	25.5	102	69-115
100-41-4	Ethylbenzene	25	24.7	99	82-115
97-63-2	Ethyl methacrylate	25	25.2	101	50-150 [a]
76-13-1	Freon 113	25	28.4	114	72-148
591-78-6	2-Hexanone	125	96.4	77	60-125
87-68-3	Hexachlorobutadiene	25	28.2	113	62-138
110-54-3	Hexane	25	24.7	99	70-148
98-82-8	Isopropylbenzene	25	28.3	113	83-129
99-87-6	p-Isopropyltoluene	25	25.8	103	85-125
108-10-1	4-Methyl-2-pentanone	125	98.2	79	61-128
126-98-7	Methacrylonitrile	250	217	87	50-150 [a]
74-83-9	Methyl bromide	25	27.3	109	60-165
74-87-3	Methyl chloride	25	27.1	108	58-152
74-88-4	Methyl iodide	25	26.8	107	61-140
80-62-6	Methyl methacrylate	25	21.8	87	71-128
74-95-3	Methylene bromide	25	24.7	99	75-114
75-09-2	Methylene chloride	25	23.5	94	66-125
78-93-3	Methyl ethyl ketone	125	87.6	70	58-127
1634-04-4	Methyl Tert Butyl Ether	25	24.0	96	67-127
91-20-3	Naphthalene	25	24.9	100	62-129
76-01-7	Pentachloroethane	25	26.4	106	50-150 [a]
107-12-0	Propionitrile	250	237	95	50-150 [a]
103-65-1	n-Propylbenzene	25	25.1	100	80-122
100-42-5	Styrene	25	22.2	89	58-125
630-20-6	1,1,1,2-Tetrachloroethane	25	25.6	102	73-118
71-55-6	1,1,1-Trichloroethane	25	28.4	114	78-132
79-34-5	1,1,2,2-Tetrachloroethane	25	22.2	89	67-119
79-00-5	1,1,2-Trichloroethane	25	23.0	92	74-115
87-61-6	1,2,3-Trichlorobenzene	25	24.0	96	65-125
96-18-4	1,2,3-Trichloropropane	25	22.6	90	68-114
120-82-1	1,2,4-Trichlorobenzene	25	24.9	100	66-122

Blank Spike Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-BS	J023119.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	25	24.9	100	77-119
108-67-8	1,3,5-Trimethylbenzene	25	25.6	102	81-120
127-18-4	Tetrachloroethylene	25	29.0	116	75-126
108-88-3	Toluene	25	25.2	101	81-114
79-01-6	Trichloroethylene	25	26.3	105	80-115
75-69-4	Trichlorofluoromethane	25	35.9	144	65-163
110-57-6	Trans-1,4-Dichloro-2-Butene	25	24.5	98	38-130
75-01-4	Vinyl chloride	25	28.8	115	70-151
108-05-4	Vinyl Acetate	125	89.1	71	42-146
	m,p-Xylene	50	52.5	105	83-118
95-47-6	o-Xylene	25	25.9	104	77-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	86-115%
17060-07-0	1,2-Dichloroethane-D4	98%	73-126%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	95%	83-119%

(a) Advisory control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41148-2MS	J023133.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2MSD	J023134.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2	J023126.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	F41148-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	90.5	72	91.6	73	1	45-127/15
75-05-8	Acetonitrile	ND		250	295	118	301	120	2	50-150/30 [a]
107-02-8	Acrolein	ND		125	124	99	129	103	4	26-185/18
107-13-1	Acrylonitrile	ND		125	120	96	116	93	3	39-140/12
107-05-1	Allyl chloride	ND		25	29.1	116	30.9	124	6	50-150/30 [a]
71-43-2	Benzene	ND		25	28.3	113	28.5	114	1	72-125/7
100-44-7	Benzyl Chloride	ND		25	20.6	82	20.8	83	1	50-150/30 [a]
108-86-1	Bromobenzene	ND		25	24.8	99	25.1	100	1	72-113/10
74-97-5	Bromochloromethane	ND		25	24.3	97	24.5	98	1	73-121/9
75-27-4	Bromodichloromethane	ND		25	25.5	102	25.5	102	0	72-120/8
75-25-2	Bromoform	ND		25	19.7	79	20.3	81	3	55-127/11
104-51-8	n-Butylbenzene	ND		25	29.3	117	28.7	115	2	69-122/10
135-98-8	sec-Butylbenzene	ND		25	29.2	117	29.1	116	0	75-125/9
98-06-6	tert-Butylbenzene	ND		25	28.7	115	28.6	114	0	70-125/12
108-90-7	Chlorobenzene	ND		25	26.1	104	25.9	104	1	79-113/7
75-00-3	Chloroethane	ND		25	40.5	162	41.2	165*	2	56-164/14
67-66-3	Chloroform	ND		25	26.6	106	27.1	108	2	75-120/8
544-10-5	1-Chlorohexane	ND		25	25.2	101	25.8	103	2	77-127/9
95-49-8	o-Chlorotoluene	ND		25	26.6	106	26.9	108	1	76-122/9
106-43-4	p-Chlorotoluene	ND		25	27.4	110	27.5	110	0	73-120/9
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	8-137/18
75-15-0	Carbon disulfide	ND		25	28.7	115	29.5	118	3	60-151/12
56-23-5	Carbon tetrachloride	ND		25	27.1	108	27.2	109	0	56-145/12
75-34-3	1,1-Dichloroethane	ND		25	28.1	112	28.4	114	1	70-122/10
75-35-4	1,1-Dichloroethylene	ND		25	27.9	112	28.0	112	0	61-137/15
563-58-6	1,1-Dichloropropene	ND		25	27.9	112	28.1	112	1	80-126/9
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	22.8	91	22.6	90	1	49-127/18
106-93-4	1,2-Dibromoethane	ND		25	23.1	92	23.6	94	2	67-113/10
107-06-2	1,2-Dichloroethane	ND		25	28.1	112	27.7	111	1	64-124/7
78-87-5	1,2-Dichloropropane	ND		25	27.3	109	27.4	110	0	74-123/8
142-28-9	1,3-Dichloropropane	ND		25	23.4	94	24.5	98	5	70-116/8
594-20-7	2,2-Dichloropropane	ND		25	26.4	106	26.4	106	0	64-133/13
124-48-1	Dibromochloromethane	ND		25	21.8	87	22.1	88	1	63-119/9
75-71-8	Dichlorodifluoromethane	ND		25	26.9	108	29.2	117	8	35-184/21
156-59-2	cis-1,2-Dichloroethylene	ND		25	24.4	98	24.9	100	2	74-125/9
10061-01-5	cis-1,3-Dichloropropene	ND		25	25.0	100	25.9	104	4	65-112/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41148-2MS	J023133.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2MSD	J023134.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2	J023126.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	F41148-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		25	5.4	22*	10.0	40*	60*	50-150/30 [a]
541-73-1	m-Dichlorobenzene	ND		25	26.5	106	26.3	105	1	74-114/7
95-50-1	o-Dichlorobenzene	ND		25	26.5	106	26.3	105	1	73-114/8
106-46-7	p-Dichlorobenzene	ND		25	26.9	108	26.7	107	1	74-112/7
156-60-5	trans-1,2-Dichloroethylene	ND		25	26.7	107	27.3	109	2	70-127/11
10061-02-6	trans-1,3-Dichloropropene	ND		25	24.3	97	25.4	102	4	59-116/11
100-41-4	Ethylbenzene	ND		25	25.9	104	26.1	104	1	73-119/8
97-63-2	Ethyl methacrylate	ND		25	24.7	99	25.1	100	2	50-150/30 [a]
76-13-1	Freon 113	ND		25	27.7	111	28.3	113	2	67-151/14
591-78-6	2-Hexanone	ND		125	125	100	125	100	0	54-131/11
87-68-3	Hexachlorobutadiene	ND		25	22.9	92	23.1	92	1	52-133/13
110-54-3	Hexane	ND		25	27.5	110	28.3	113	3	62-153/12
98-82-8	Isopropylbenzene	ND		25	27.5	110	27.5	110	0	79-127/8
99-87-6	p-Isopropyltoluene	ND		25	28.2	113	28.0	112	1	77-126/8
108-10-1	4-Methyl-2-pentanone	ND		125	132	106	134	107	2	57-136/11
126-98-7	Methacrylonitrile	ND		250	328	131	322	129	2	50-150/30 [a]
74-83-9	Methyl bromide	ND		25	28.9	116	29.8	119	3	52-172/16
74-87-3	Methyl chloride	ND		25	34.9	140	36.5	146	4	53-155/19
74-88-4	Methyl iodide	ND		25	23.0	92	24.1	96	5	52-141/12
80-62-6	Methyl methacrylate	ND		25	30.2	121*	29.7	119*	2	76-115/11
74-95-3	Methylene bromide	ND		25	25.8	103	26.0	104	1	73-115/9
75-09-2	Methylene chloride	ND		25	29.8	119	30.3	121	2	61-129/11
78-93-3	Methyl ethyl ketone	ND		125	117	94	118	94	1	51-128/10
1634-04-4	Methyl Tert Butyl Ether	ND		25	23.5	94	24.0	96	2	61-129/9
91-20-3	Naphthalene	ND		25	24.3	97	24.4	98	0	52-127/13
76-01-7	Pentachloroethane	ND		25	24.2	97	24.9	100	3	50-150/30 [a]
107-12-0	Propionitrile	ND		250	285	114	285	114	0	50-150/30 [a]
103-65-1	n-Propylbenzene	ND		25	28.1	112	28.4	114	1	73-123/10
100-42-5	Styrene	ND		25	18.6	74	18.1	72	3	64-124/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	24.3	97	24.2	97	0	69-118/8
71-55-6	1,1,1-Trichloroethane	ND		25	26.8	107	27.3	109	2	72-133/8
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	26.0	104	26.2	105	1	64-120/10
79-00-5	1,1,2-Trichloroethane	ND		25	23.8	95	24.1	96	1	72-116/9
87-61-6	1,2,3-Trichlorobenzene	ND		25	22.3	89	22.5	90	1	58-121/12
96-18-4	1,2,3-Trichloropropane	ND		25	24.6	98	24.3	97	1	63-116/13
120-82-1	1,2,4-Trichlorobenzene	ND		25	23.5	94	23.3	93	1	58-120/11

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41149
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41148-2MS	J023133.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2MSD	J023134.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2	J023126.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41149-1, F41149-2, F41149-3

CAS No.	Compound	F41148-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		25	27.1	108	27.1	108	0	68-122/10
108-67-8	1,3,5-Trimethylbenzene	ND		25	27.0	108	27.1	108	0	70-125/9
127-18-4	Tetrachloroethylene	ND		25	23.5	94	24.1	96	3	70-126/9
108-88-3	Toluene	ND		25	24.9	100	25.3	101	2	67-123/8
79-01-6	Trichloroethylene	ND		25	27.2	109	27.3	109	0	73-117/10
75-69-4	Trichlorofluoromethane	ND		25	38.7	155	38.8	155	0	52-164/16
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		25	8.4	34	13.9	56	49*	27-131/22
75-01-4	Vinyl chloride	ND		25	38.9	156	39.2	157	1	63-161/18
108-05-4	Vinyl Acetate	ND		125	107	86	104	83	3	37-154/10
	m,p-Xylene	ND		50	54.2	108	54.6	109	1	74-123/7
95-47-6	o-Xylene	ND		25	26.1	104	26.3	105	1	68-123/7

CAS No.	Surrogate Recoveries	MS	MSD	F41148-2	Limits
1868-53-7	Dibromofluoromethane	99%	99%	105%	86-115%
17060-07-0	1,2-Dichloroethane-D4	108%	106%	108%	73-126%
2037-26-5	Toluene-D8	90%	92%	93%	86-112%
460-00-4	4-Bromofluorobenzene	99%	101%	107%	83-119%

(a) Advisory control limits.

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F41149
Account: BHATNM - Bhate Environmental Associates, Inc.
Project: HOLMN

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN20895	100	<100	mg/l				

Associated Samples:
Batch GN20895: F41149-1, F41149-2
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F41149
Account: BHATNM - Bhate Environmental Associates, Inc.
Project: HOLMN

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN20895	F41149-1	mg/l	11500	11400	0.9	0-29%

Associated Samples:
Batch GN20895: F41149-1, F41149-2
(*) Outside of QC limits

6.2 9

F41192

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

11/21/06

Technical Report for

Bhate Environmental Associates, Inc.

HOLMN

PROJECT 9050360.01.08

Accutest Job Number: F41192

Sampling Date: 06/01/06

Report to:

Bhate Environmental Associates, Inc.
1608 13th Ave. South
Suite 300
Birmingham, AL 35205

ATTN: Mike D'Auben

Total number of pages in report: 28

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Accutest Laboratories

Sample Summary

Bhate Environmental Associates, Inc.

Job No: F41192

HOLMN
Project No: PROJECT 9050360.01.08

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F41192-1	06/01/06	09:30 TL	06/02/06	AQ	Ground Water	SS73DP03
F41192-2	06/01/06	00:00 TL	06/02/06	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Bhate Environmental Associates, Inc. **Job No:** F41192

Site: HOLMN **Report Date** 6/14/2006 9:10:01 AM

1 **Sample,** 1 Trip Blank were collected on 06/01/2006 and received at Accutest on 06/02/2006 properly preserved, at 3.3 Deg. C and intact. These Samples received an Accutest job number of F41192. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** VJ951

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F41148-2MS, F41148-2MSD were used as the QC samples indicated.

MS/MSD Recovery for 2-Chloroethyl vinyl ether affected by preservation Refer to Blank Spike.

MS and/or MSD Recovery for cis-1,4-Dichloro-2-butene, Chloroethane, Methyl methacrylate are outside control limits. Probable cause due to matrix interference.

RPD(s) for MSD for Trans-1,4-Dichloro-2-Butene are outside control limits for sample F41148-2MSD. Probable cause due to sample homogeneity.

F41192-1: Sample was not preserved to a pH < 2; reported results are considered minimum values.

F41192-1 for Acetone: CCV outside of control limits; results may be biased low.

Wet Chemistry By Method EPA 160.1

Matrix: AQ **Batch ID:** GN20921

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F41170-3DUP were used as the QC samples for Solids, Total Dissolved.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Date: June 14, 2006

Svetlana Izosimova, QAO (signature on file)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SS73DP03		
Lab Sample ID:	F41192-1	Date Sampled:	06/01/06
Matrix:	AQ - Ground Water	Date Received:	06/02/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	J023140.D	1	06/12/06	MM	n/a	n/a	VJ951
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [b]	9.7	25	5.0	ug/l	J
75-05-8	Acetonitrile	ND	20	10	ug/l	
107-02-8	Acrolein	ND	20	10	ug/l	
107-13-1	Acrylonitrile	ND	10	5.0	ug/l	
107-05-1	Allyl chloride	ND	10	5.0	ug/l	
71-43-2	Benzene	11.0	1.0	0.50	ug/l	
100-44-7	Benzyl Chloride	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	1.5	1.0	0.50	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.70	1.0	0.50	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP03		
Lab Sample ID:	F41192-1	Date Sampled:	06/01/06
Matrix:	AQ - Ground Water	Date Received:	06/02/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10		ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	1.2	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	2.0	ug/l	
76-13-1	Freon 113	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
126-98-7	Methacrylonitrile	ND	20	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-88-4	Methyl iodide	ND	5.0	2.5	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	2.5	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	2.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	5.0	ug/l	
107-12-0	Propionitrile	ND	20	10	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SS73DP03		
Lab Sample ID:	F41192-1	Date Sampled:	06/01/06
Matrix:	AQ - Ground Water	Date Received:	06/02/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	13.1	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
	m,p-Xylene	ND	2.0	0.50	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	112%		73-126%
2037-26-5	Toluene-D8	91%		86-112%
460-00-4	4-Bromofluorobenzene	107%		83-119%

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.
(b) CCV outside of control limits; results may be biased low.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SS73DP03		
Lab Sample ID:	F41192-1	Date Sampled:	06/01/06
Matrix:	AQ - Ground Water	Date Received:	06/02/06
		Percent Solids:	n/a
Project:	HOLMN		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	21600	100	10	mg/l	1	06/06/06 15:20	SJL	EPA 160.1

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
J = Indicates a result > = MDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F41192-2	Date Sampled:	06/01/06
Matrix:	AQ - Trip Blank Water	Date Received:	06/02/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J023141.D	1	06/12/06	MM	n/a	n/a	VJ951
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
75-05-8	Acetonitrile	ND	20	10	ug/l	
107-02-8	Acrolein	ND	20	10	ug/l	
107-13-1	Acrylonitrile	ND	10	5.0	ug/l	
107-05-1	Allyl chloride	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-44-7	Benzyl Chloride	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F41192-2	Date Sampled:	06/01/06
Matrix:	AQ - Trip Blank Water	Date Received:	06/02/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10		ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	2.0	ug/l	
76-13-1	Freon 113	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
126-98-7	Methacrylonitrile	ND	20	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-88-4	Methyl iodide	ND	5.0	2.5	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	2.5	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.50	ug/l	
75-09-2	Methylene chloride	3.7	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	2.0	1.0	ug/l	
76-01-7	Pentachloroethane	ND	10	5.0	ug/l	
107-12-0	Propionitrile	ND	20	10	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F41192-2	Date Sampled:	06/01/06
Matrix:	AQ - Trip Blank Water	Date Received:	06/02/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	HOLMN		

VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
	m,p-Xylene	ND	2.0	0.50	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	109%		73-126%
2037-26-5	Toluene-D8	93%		86-112%
460-00-4	4-Bromofluorobenzene	110%		83-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F41192

BHATE

Environmental Engineers and Scientists

Chain of Custody and Analytical Request

Page 1 of 1

Project Number: 9050360.01.08

P.O. _____

Chain of Custody Number [1]: 1620061

LIMS Number: _____

Facility/Base I.D.: HOLMN

Project Name / Site Name: Spill Site 61

Client Name: USACE

Collected by: T Luoero

Sample Analysis Requested [5] — Quality Assurance Samples [6]

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military)	Sample Depth (beginning -		SA Code [2]	Sample Numb	Sample Matri	Number of containers	VOC	TDS							Matrix Description	Trip Blank Lot Control Number	Cooler ID
1 SS72DP03	SS72DP03	162006	920	0	0	N	1	WG	2	3	3							SS72 Well		1
2 Trip Blank	Field QC					TB			1	3										1

COMMENTS:

Custody Transfer Prior to Receipt by Laboratory

	Relinquished by (Signed)	Date	Time	Received by (signed)	Date	Time
1.	[signature]	6/1/2006	1600	[signature]	6/2/06	1150
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.: _____

Method of Shipment: FEDEX Airbill Number: _____

Analytical Lab: Accutest Delivery Location: Orlando FL

Lab Recipient: _____ Delivery Date/Time: _____

3.3

1.) Chain of Custody Number = date collected + custody number (e.g. 09-03-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-a) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-4) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-a)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: OB = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SB = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc.) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 101099-01 in the Equipment Blank Lot Control

F41192: Chain of Custody

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ACCUTEST Laboratories

F41192

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F41192 CLIENT: BHATE PROJECT: Spill Site 61

DATE/TIME RECEIVED: 6/2/06 9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 3.3

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8574 8739 6693

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DON'T MATCH LABEL
- [ ] ID'S ON COC DON'T MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

MISC. INFORMATION

NUMBER OF ENCORES ? X

NUMBER OF 5035 FIELD KITS ? X

NUMBER OR LAB FILTERED METALS ? X

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE [signature] 6/2/06 TECHNICIAN SIGNATURE/DATE [signature] 6-2-06

4.1

4

F41192: Chain of Custody

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ACCUTEST

F41192

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-MB	J023120.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
75-05-8	Acetonitrile	ND	20	10	ug/l	
107-02-8	Acrolein	ND	20	10	ug/l	
107-13-1	Acrylonitrile	ND	10	5.0	ug/l	
107-05-1	Allyl chloride	ND	10	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-44-7	Benzyl Chloride	ND	1.0	0.50	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.50	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
544-10-5	1-Chlorohexane	ND	2.0	1.0	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.50	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	1.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.50	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	

Method Blank Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-MB	J023120.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	Result	RL	MDL	Units	Q
1476-11-5	cis-1,4-Dichloro-2-Butene	ND	10		ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
97-63-2	Ethyl methacrylate	ND	5.0	2.0	ug/l	
76-13-1	Freon 113	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.50	ug/l	
110-54-3	Hexane	ND	2.0	1.0	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
126-98-7	Methacrylonitrile	ND	20	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
74-88-4	Methyl iodide	ND	5.0	2.5	ug/l	
80-62-6	Methyl methacrylate	ND	5.0	2.5	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	1.2	2.0	1.0	ug/l	J
76-01-7	Pentachloroethane	ND	10	5.0	ug/l	
107-12-0	Propionitrile	ND	20	10	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	1.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	

Method Blank Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-MB	J023120.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	Result	RL	MDL	Units	Q
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	1.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
108-05-4	Vinyl Acetate	ND	10	5.0	ug/l	
	m,p-Xylene	ND	2.0	0.50	ug/l	
95-47-6	o-Xylene	ND	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	86-115%
17060-07-0	1,2-Dichloroethane-D4	100%	73-126%
2037-26-5	Toluene-D8	95%	86-112%
460-00-4	4-Bromofluorobenzene	99%	83-119%

Blank Spike Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-BS	J023119.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	75.1	60	44-142
75-05-8	Acetonitrile	250	215	86	50-150 [a]
107-02-8	Acrolein	125	133	106	32-168
107-13-1	Acrylonitrile	125	102	82	35-130
107-05-1	Allyl chloride	25	24.0	96	50-150 [a]
71-43-2	Benzene	25	26.2	105	80-120
100-44-7	Benzyl Chloride	25	20.6	82	50-150 [a]
108-86-1	Bromobenzene	25	24.9	100	76-114
74-97-5	Bromochloromethane	25	24.7	99	75-121
75-27-4	Bromodichloromethane	25	24.7	99	75-120
75-25-2	Bromoform	25	25.6	102	60-129
104-51-8	n-Butylbenzene	25	25.7	103	76-122
135-98-8	sec-Butylbenzene	25	26.6	106	84-122
98-06-6	tert-Butylbenzene	25	25.8	103	77-124
108-90-7	Chlorobenzene	25	25.2	101	82-112
75-00-3	Chloroethane	25	29.0	116	67-148
67-66-3	Chloroform	25	26.3	105	78-118
544-10-5	1-Chlorohexane	25	25.6	102	82-130
95-49-8	o-Chlorotoluene	25	24.0	96	80-121
106-43-4	p-Chlorotoluene	25	24.6	98	78-120
110-75-8	2-Chloroethyl vinyl ether	125	121	97	23-132
75-15-0	Carbon disulfide	25	28.0	112	65-147
56-23-5	Carbon tetrachloride	25	29.3	117	69-137
75-34-3	1,1-Dichloroethane	25	25.6	102	75-117
75-35-4	1,1-Dichloroethylene	25	25.2	101	67-134
563-58-6	1,1-Dichloropropene	25	27.5	110	84-127
96-12-8	1,2-Dibromo-3-chloropropane	25	20.5	82	54-125
106-93-4	1,2-Dibromoethane	25	23.5	94	68-116
107-06-2	1,2-Dichloroethane	25	24.0	96	68-121
78-87-5	1,2-Dichloropropane	25	23.9	96	78-122
142-28-9	1,3-Dichloropropane	25	22.7	91	72-116
594-20-7	2,2-Dichloropropane	25	27.8	111	68-134
124-48-1	Dibromochloromethane	25	23.9	96	68-118
75-71-8	Dichlorodifluoromethane	25	27.0	108	43-173
156-59-2	cis-1,2-Dichloroethylene	25	24.6	98	81-120
10061-01-5	cis-1,3-Dichloropropene	25	25.9	104	73-115

Blank Spike Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-BS	J023119.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
1476-11-5	cis-1,4-Dichloro-2-Butene	25	23.9	96	50-150 [a]
541-73-1	m-Dichlorobenzene	25	24.8	99	78-116
95-50-1	o-Dichlorobenzene	25	24.1	96	77-115
106-46-7	p-Dichlorobenzene	25	24.4	98	77-113
156-60-5	trans-1,2-Dichloroethylene	25	25.0	100	74-125
10061-02-6	trans-1,3-Dichloropropene	25	25.5	102	69-115
100-41-4	Ethylbenzene	25	24.7	99	82-115
97-63-2	Ethyl methacrylate	25	25.2	101	50-150 [a]
76-13-1	Freon 113	25	28.4	114	72-148
591-78-6	2-Hexanone	125	96.4	77	60-125
87-68-3	Hexachlorobutadiene	25	28.2	113	62-138
110-54-3	Hexane	25	24.7	99	70-148
98-82-8	Isopropylbenzene	25	28.3	113	83-129
99-87-6	p-Isopropyltoluene	25	25.8	103	85-125
108-10-1	4-Methyl-2-pentanone	125	98.2	79	61-128
126-98-7	Methacrylonitrile	250	217	87	50-150 [a]
74-83-9	Methyl bromide	25	27.3	109	60-165
74-87-3	Methyl chloride	25	27.1	108	58-152
74-88-4	Methyl iodide	25	26.8	107	61-140
80-62-6	Methyl methacrylate	25	21.8	87	71-128
74-95-3	Methylene bromide	25	24.7	99	75-114
75-09-2	Methylene chloride	25	23.5	94	66-125
78-93-3	Methyl ethyl ketone	125	87.6	70	58-127
1634-04-4	Methyl Tert Butyl Ether	25	24.0	96	67-127
91-20-3	Naphthalene	25	24.9	100	62-129
76-01-7	Pentachloroethane	25	26.4	106	50-150 [a]
107-12-0	Propionitrile	250	237	95	50-150 [a]
103-65-1	n-Propylbenzene	25	25.1	100	80-122
100-42-5	Styrene	25	22.2	89	58-125
630-20-6	1,1,1,2-Tetrachloroethane	25	25.6	102	73-118
71-55-6	1,1,1-Trichloroethane	25	28.4	114	78-132
79-34-5	1,1,2,2-Tetrachloroethane	25	22.2	89	67-119
79-00-5	1,1,2-Trichloroethane	25	23.0	92	74-115
87-61-6	1,2,3-Trichlorobenzene	25	24.0	96	65-125
96-18-4	1,2,3-Trichloropropane	25	22.6	90	68-114
120-82-1	1,2,4-Trichlorobenzene	25	24.9	100	66-122

Blank Spike Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ951-BS	J023119.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-63-6	1,2,4-Trimethylbenzene	25	24.9	100	77-119
108-67-8	1,3,5-Trimethylbenzene	25	25.6	102	81-120
127-18-4	Tetrachloroethylene	25	29.0	116	75-126
108-88-3	Toluene	25	25.2	101	81-114
79-01-6	Trichloroethylene	25	26.3	105	80-115
75-69-4	Trichlorofluoromethane	25	35.9	144	65-163
110-57-6	Trans-1,4-Dichloro-2-Butene	25	24.5	98	38-130
75-01-4	Vinyl chloride	25	28.8	115	70-151
108-05-4	Vinyl Acetate	125	89.1	71	42-146
	m,p-Xylene	50	52.5	105	83-118
95-47-6	o-Xylene	25	25.9	104	77-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	86-115%
17060-07-0	1,2-Dichloroethane-D4	98%	73-126%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	95%	83-119%

(a) Advisory control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41148-2MS	J023133.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2MSD	J023134.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2	J023126.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	F41148-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	90.5	72	91.6	73	1	45-127/15
75-05-8	Acetonitrile	ND		250	295	118	301	120	2	50-150/30 [a]
107-02-8	Acrolein	ND		125	124	99	129	103	4	26-185/18
107-13-1	Acrylonitrile	ND		125	120	96	116	93	3	39-140/12
107-05-1	Allyl chloride	ND		25	29.1	116	30.9	124	6	50-150/30 [a]
71-43-2	Benzene	ND		25	28.3	113	28.5	114	1	72-125/7
100-44-7	Benzyl Chloride	ND		25	20.6	82	20.8	83	1	50-150/30 [a]
108-86-1	Bromobenzene	ND		25	24.8	99	25.1	100	1	72-113/10
74-97-5	Bromochloromethane	ND		25	24.3	97	24.5	98	1	73-121/9
75-27-4	Bromodichloromethane	ND		25	25.5	102	25.5	102	0	72-120/8
75-25-2	Bromoform	ND		25	19.7	79	20.3	81	3	55-127/11
104-51-8	n-Butylbenzene	ND		25	29.3	117	28.7	115	2	69-122/10
135-98-8	sec-Butylbenzene	ND		25	29.2	117	29.1	116	0	75-125/9
98-06-6	tert-Butylbenzene	ND		25	28.7	115	28.6	114	0	70-125/12
108-90-7	Chlorobenzene	ND		25	26.1	104	25.9	104	1	79-113/7
75-00-3	Chloroethane	ND		25	40.5	162	41.2	165*	2	56-164/14
67-66-3	Chloroform	ND		25	26.6	106	27.1	108	2	75-120/8
544-10-5	1-Chlorohexane	ND		25	25.2	101	25.8	103	2	77-127/9
95-49-8	o-Chlorotoluene	ND		25	26.6	106	26.9	108	1	76-122/9
106-43-4	p-Chlorotoluene	ND		25	27.4	110	27.5	110	0	73-120/9
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	8-137/18
75-15-0	Carbon disulfide	ND		25	28.7	115	29.5	118	3	60-151/12
56-23-5	Carbon tetrachloride	ND		25	27.1	108	27.2	109	0	56-145/12
75-34-3	1,1-Dichloroethane	ND		25	28.1	112	28.4	114	1	70-122/10
75-35-4	1,1-Dichloroethylene	ND		25	27.9	112	28.0	112	0	61-137/15
563-58-6	1,1-Dichloropropene	ND		25	27.9	112	28.1	112	1	80-126/9
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	22.8	91	22.6	90	1	49-127/18
106-93-4	1,2-Dibromoethane	ND		25	23.1	92	23.6	94	2	67-113/10
107-06-2	1,2-Dichloroethane	ND		25	28.1	112	27.7	111	1	64-124/7
78-87-5	1,2-Dichloropropane	ND		25	27.3	109	27.4	110	0	74-123/8
142-28-9	1,3-Dichloropropane	ND		25	23.4	94	24.5	98	5	70-116/8
594-20-7	2,2-Dichloropropane	ND		25	26.4	106	26.4	106	0	64-133/13
124-48-1	Dibromochloromethane	ND		25	21.8	87	22.1	88	1	63-119/9
75-71-8	Dichlorodifluoromethane	ND		25	26.9	108	29.2	117	8	35-184/21
156-59-2	cis-1,2-Dichloroethylene	ND		25	24.4	98	24.9	100	2	74-125/9
10061-01-5	cis-1,3-Dichloropropene	ND		25	25.0	100	25.9	104	4	65-112/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41148-2MS	J023133.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2MSD	J023134.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2	J023126.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	F41148-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
1476-11-5	cis-1,4-Dichloro-2-Butene	ND		25	5.4	22*	10.0	40*	60*	50-150/30 [a]
541-73-1	m-Dichlorobenzene	ND		25	26.5	106	26.3	105	1	74-114/7
95-50-1	o-Dichlorobenzene	ND		25	26.5	106	26.3	105	1	73-114/8
106-46-7	p-Dichlorobenzene	ND		25	26.9	108	26.7	107	1	74-112/7
156-60-5	trans-1,2-Dichloroethylene	ND		25	26.7	107	27.3	109	2	70-127/11
10061-02-6	trans-1,3-Dichloropropene	ND		25	24.3	97	25.4	102	4	59-116/11
100-41-4	Ethylbenzene	ND		25	25.9	104	26.1	104	1	73-119/8
97-63-2	Ethyl methacrylate	ND		25	24.7	99	25.1	100	2	50-150/30 [a]
76-13-1	Freon 113	ND		25	27.7	111	28.3	113	2	67-151/14
591-78-6	2-Hexanone	ND		125	125	100	125	100	0	54-131/11
87-68-3	Hexachlorobutadiene	ND		25	22.9	92	23.1	92	1	52-133/13
110-54-3	Hexane	ND		25	27.5	110	28.3	113	3	62-153/12
98-82-8	Isopropylbenzene	ND		25	27.5	110	27.5	110	0	79-127/8
99-87-6	p-Isopropyltoluene	ND		25	28.2	113	28.0	112	1	77-126/8
108-10-1	4-Methyl-2-pentanone	ND		125	132	106	134	107	2	57-136/11
126-98-7	Methacrylonitrile	ND		250	328	131	322	129	2	50-150/30 [a]
74-83-9	Methyl bromide	ND		25	28.9	116	29.8	119	3	52-172/16
74-87-3	Methyl chloride	ND		25	34.9	140	36.5	146	4	53-155/19
74-88-4	Methyl iodide	ND		25	23.0	92	24.1	96	5	52-141/12
80-62-6	Methyl methacrylate	ND		25	30.2	121*	29.7	119*	2	76-115/11
74-95-3	Methylene bromide	ND		25	25.8	103	26.0	104	1	73-115/9
75-09-2	Methylene chloride	ND		25	29.8	119	30.3	121	2	61-129/11
78-93-3	Methyl ethyl ketone	ND		125	117	94	118	94	1	51-128/10
1634-04-4	Methyl Tert Butyl Ether	ND		25	23.5	94	24.0	96	2	61-129/9
91-20-3	Naphthalene	ND		25	24.3	97	24.4	98	0	52-127/13
76-01-7	Pentachloroethane	ND		25	24.2	97	24.9	100	3	50-150/30 [a]
107-12-0	Propionitrile	ND		250	285	114	285	114	0	50-150/30 [a]
103-65-1	n-Propylbenzene	ND		25	28.1	112	28.4	114	1	73-123/10
100-42-5	Styrene	ND		25	18.6	74	18.1	72	3	64-124/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	24.3	97	24.2	97	0	69-118/8
71-55-6	1,1,1-Trichloroethane	ND		25	26.8	107	27.3	109	2	72-133/8
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	26.0	104	26.2	105	1	64-120/10
79-00-5	1,1,2-Trichloroethane	ND		25	23.8	95	24.1	96	1	72-116/9
87-61-6	1,2,3-Trichlorobenzene	ND		25	22.3	89	22.5	90	1	58-121/12
96-18-4	1,2,3-Trichloropropane	ND		25	24.6	98	24.3	97	1	63-116/13
120-82-1	1,2,4-Trichlorobenzene	ND		25	23.5	94	23.3	93	1	58-120/11

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F41192
Account: BHATNM Bhate Environmental Associates, Inc.
Project: HOLMN

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F41148-2MS	J023133.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2MSD	J023134.D	1	06/12/06	MM	n/a	n/a	VJ951
F41148-2	J023126.D	1	06/12/06	MM	n/a	n/a	VJ951

The QC reported here applies to the following samples: Method: SW846 8260B

F41192-1, F41192-2

CAS No.	Compound	F41148-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-63-6	1,2,4-Trimethylbenzene	ND		25	27.1	108	27.1	108	0	68-122/10
108-67-8	1,3,5-Trimethylbenzene	ND		25	27.0	108	27.1	108	0	70-125/9
127-18-4	Tetrachloroethylene	ND		25	23.5	94	24.1	96	3	70-126/9
108-88-3	Toluene	ND		25	24.9	100	25.3	101	2	67-123/8
79-01-6	Trichloroethylene	ND		25	27.2	109	27.3	109	0	73-117/10
75-69-4	Trichlorofluoromethane	ND		25	38.7	155	38.8	155	0	52-164/16
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		25	8.4	34	13.9	56	49*	27-131/22
75-01-4	Vinyl chloride	ND		25	38.9	156	39.2	157	1	63-161/18
108-05-4	Vinyl Acetate	ND		125	107	86	104	83	3	37-154/10
	m,p-Xylene	ND		50	54.2	108	54.6	109	1	74-123/7
95-47-6	o-Xylene	ND		25	26.1	104	26.3	105	1	68-123/7

CAS No.	Surrogate Recoveries	MS	MSD	F41148-2	Limits
1868-53-7	Dibromofluoromethane	99%	99%	105%	86-115%
17060-07-0	1,2-Dichloroethane-D4	108%	106%	108%	73-126%
2037-26-5	Toluene-D8	90%	92%	93%	86-112%
460-00-4	4-Bromofluorobenzene	99%	101%	107%	83-119%

(a) Advisory control limits.

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F41192
Account: BHATNM - Bhate Environmental Associates, Inc.
Project: HOLMN

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN20921	100	<100	mg/l				

Associated Samples:
Batch GN20921: F41192-1
(*) Outside of QC limits

APPENDIX E

SITE-SPECIFIC ADDENDUM TO THE BASEWIDE HEALTH AND SAFETY PLAN

SITE-SPECIFIC ADDENDUM TO THE BASEWIDE HEALTH AND SAFETY PLAN

FOR

RCRA FACILITY ASSESSMENT

CONFIRMATORY SAMPLING WORK PLAN

MULTIPLE SITES

HOLLOMAN AFB, NEW MEXICO

Prepared for:

49 CES/CEV
Holloman Air Force Base
New Mexico

Under Contract to:

U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

Contract No. DACA87-02-D-0003
Task Order No. DK 01

Prepared by:

Bhate Environmental Associates, Inc.
1608 13th Avenue South, Suite 300
Birmingham, Alabama 35205

Bhate Project No. 9050360 01.09

January 2007

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SITE-SPECIFIC ADDENDUM TO THE BASEWIDE HEALTH AND SAFETY PLAN

FOR

RCRA FACILITY ASSESSMENT

CONFIRMATORY SAMPLING WORK PLAN

MULTIPLE SITES

HOLLOMAN AFB, NEW MEXICO

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Attachments

A Activity Hazards Analysis
B Primary Contaminants of Concern

ACRONYMS AND ABBREVIATIONS

AF Fm	Air Force Form
AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
AOC	Area of Concern
Bhate	Bhate Environmental Associates, Inc.
CES/CEV	Civil Engineering Squadron/Combat Engineer Vehicle
CFR	Code of Federal Regulations
CIH	Certified Industrial Hygienist
CPR	Cardiopulmonary Resuscitation
DPT	Direct push technology
EM	Engineer Manual
GFCI	Ground fault circuit interrupters
HAFB	Holloman Air Force Base
HASP	Health and Safety Plan
HSM	Health and Safety Manager
mg/m^3	Milligrams per cubic meter
MSDS	Material Safety Data Sheet
OSHA	Occupational Safety and Health Administration
PEL	Permissible exposure limit
P.G.	Professional Geologist
PID	Photoionization Detector
PPE	Personal protective equipment
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
SPF	Sun protection factor
SSA	Site-Specific Addendum
SSHO	Site Safety and Health Officer
STEL	Short Term Exposure Limit
SWMU	Solid Waste Management Unit
USACE	U.S. Army Corps of Engineers
VOC	Volatile organic compound

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1 PROJECT SAFETY COORDINATION

The Bhate personnel who are responsible for safety and health issues during the implementation of this project are identified in Table 1-1. The respective personnel shall have reviewed and approved this Site-Specific Addendum to the Basewide Health and Safety Plan (HASP) submitted by Bhate Environmental Associates, Inc., (Bhate) for implementation of this scope of work prior to the start of field operations. The requirements of this site-specific addendum are applicable to Bhate employees, their subcontractors, and site visitors.

Table 1-1. Project Team Members with Project Health and Safety Responsibilities

Title	Name	Telephone
Site Manager	Mr. John Hymer	505-491-9171
Program Manager	Mr. Frank Gardner, P.G.	303-386-6454
Project Manager	Mr. Jim Moore, P.G.	303-929-4840
Health and Safety Manager	Mr. Brian Muller, CIH	205-918-4000
Site Safety and Health Officer	Mr. Dave Rizzuto	505-430-3965
P.G. = Professional Geologist CIH = Certified Industrial Hygienist		

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2 PROJECT BACKGROUND AND SCOPE

Bhate Environmental Associates, Inc., (Bhate) has been retained by the U.S. Army Corps of Engineers (USACE) to conduct confirmatory sampling at nine of the Solid Waste Management Units (SWMUs) and Area of Concern (AOC) (SS-65, SS-66, SS-67, SS-68, SS-69, SS-72, SS-73, RW-70, and TU-71) at Holloman Air Force Base (HAFB). The original Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) was performed at Sites SS-65, SS-66, SS-67, SS-68, SS-69, RW-70, and TU-71 in 1988 and recommended that these sites be investigated further. Sites SS-72 and SS-73 were discovered between 2003 and 2004 and were not part of the original 1988 RFA.

The objective of the confirmatory sampling is to evaluate the subsurface conditions within each potential source area. This objective will be met by collecting subsurface soil and groundwater samples as identified in the Work Plan. A detailed summary of each site history as well as the scope of the confirmatory sampling is included in Section 2 of the Work Plan. The anticipated activities for this project include:

- Mobilization and demobilization of equipment
- Direct push technology (DPT) Soil boring, subsurface soil sampling, monitoring well installation, and groundwater sampling

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3 HAZARD ASSESSMENT AND CONTROLS

3.1 Task Hazard(s) Summary

The potential health and safety hazards of this task are summarized below in Table 3-1. The potential for encountering these hazards is ranked (high, moderate, or low) based on the work to be performed and the hazard control measures to be used.

Table 3-1. Task Hazards Summary

Summary	Hazard potential [High, Moderate, or Low]	Description of potential hazards
_√_**Safety** (i.e. Walking and working surfaces, heavy equipment, traffic, falls, power and hand tools, materials handling, electrical safety, etc.)	• Moderate All tasks and their control measures are addressed in Task Specific Activity Hazard Analyses (AHAs) in Attachment A	• Walking and surfaces • Heavy equipment and vehicular traffic • Materials handling • Slips, trips, and falls
_√_**Utilities**	• Low	• Buried • Overhead • Building Although these hazards should not be associated with this particular scope of work, it is necessary to verify that the hazards can be controlled.
_√_**Chemical**	• Moderate	• Volatile Organic Compounds: Benzene, Toluene, Ethylbenzene and Xylenes (see Attachment B)
_√_**Physical**	• Moderate	• Thermal stressors • Equipment noise
_√_**Biological** (i.e. Plants, animals, insects, spiders, infectious waste)	• Low	• Insect stings and bites • Poisonous snakes/reptiles (Potential for contact should be minimal)

3.2 Hazard Control Measures

General safe work practices and control measures are identified and summarized in the *Basewide HASP* (Bhate, December 2003) and are consistent with the practices described in the *U.S. Army Corps of Engineers Safety and Health Requirements Manual,* Engineer Manual (EM) 385-1-1,

November 2003. All site personnel will follow the following general safety rules. These precautionary measures are designed to reduce the risks of inadvertent or accidental injury or chemical exposure during onsite operations.

1. All site personnel must attend the Daily Safety Briefing.
2. Be familiar with standard operating procedures and adhere to all instructions and requirements in the HASP.
3. Any individual taking prescribed drugs shall inform the Site Safety and Health Officer (SSHO) of the type of medication. The SSHO will review the matter with the Health and Safety Manager (HSM), as necessary, who will decide if the employee can safely work onsite while taking the medication.
4. Medicine and alcohol can exacerbate the effects from exposure to toxic chemicals. While field operations are in effect, alcoholic beverage intake should be minimized or avoided during off-work hours. Personnel performing onsite operations should not take prescribed drugs where the potential for absorption, inhalation, or ingestion of toxic substances exists unless specifically approved by a qualified physician. Do not work when ill.
5. The personal protective equipment specified by the HASP shall be worn by all site personnel.
6. Eating, drinking, chewing tobacco or gum, smoking, and any other practice that may increase the possibility of hand-to-mouth contact is prohibited in the work area. (Exceptions may be permitted by the SSHO to allow fluid intake during heat stress conditions.)
7. All lighters, matches, cigarettes, and other forms of tobacco are prohibited in the work area.
8. All signs and demarcations shall be followed. Such signs and demarcation shall not be removed except as authorized by the SSHO.
9. No one shall enter a permit-required confined space without a permit. Confined space entry permits shall be implemented as issued.
10. All personnel must follow Hot Work Permits as issued.
11. All personnel must follow the work-rest regimens and other practices required by the heat stress program.
12. Rest breaks shall be taken in approved locations.
13. All personnel must follow lockout/tagout procedures when working on equipment involving moving parts or hazardous energy sources.
14. No person shall operate equipment unless trained and authorized.
15. No one may enter an excavation greater than four feet deep unless authorized by the Competent Person. Excavations must be sloped or shored properly. Safe means of access and egress from excavations must be maintained.
16. Ladders and scaffolds shall be solidly constructed, in good working condition and inspected prior to use. No one may use defective ladders or scaffolds.
17. Fall protection or fall arrest systems must be in place when working at elevations greater than six feet for temporary working surfaces and four feet for fixed platforms.

18. Safety belts, harnesses, and lanyards must be selected by the SSHO. The user must inspect the equipment prior to use. No defective personal fall protection equipment shall be used. Personal fall protection that has been shock loaded must be discarded.
19. Hand and portable power tools must be inspected prior to use. Defective tools and equipment shall not be used.
20. Ground fault circuit interrupters (GFCIs) shall be used for cord and plug equipment used outdoors or in damp locations. Electrical cords shall be kept out of walkways and puddles unless protected and rated for the service.
21. Improper use, mishandling, or tampering with health and safety equipment and samples is prohibited.
22. Horseplay of any kind is prohibited.
23. Possession or use of alcoholic beverages, controlled substances, or firearms on any site is forbidden.
24. All incidents, no matter how minor must be reported immediately to the SSHO.
25. All personnel shall be familiar with the Site Emergency procedures.

Activity Hazard Analysis have been developed for each of the following activities and are included in Attachment A:

- General site activities/mobilization and demobilization
- Soil boring, subsurface soil sampling, monitoring well installation, groundwater sampling

3.3 Written Safety Procedures and Programs

Table 3-2 provides a summary of the existing safety procedures and programs that will be used for this task. Copies of applicable procedures and programs are included in the *Basewide HASP*, as indicated.

Table 3-2. Written Safety Procedures and Programs

Reference Procedure or Program	Applicable Section(s)
Bhate Hazard Communication Program	All (Refer to Basewide HASP)
Bhate Respiratory Protection Program	All (Refer to Basewide HASP)
Bhate Hearing Conservation Program	All (Refer to Basewide HASP)

3.4 Permits

Before site activities can begin, there are several pre-construction documents and approval requirements to be met, including Air Force Form (AF Fm) 332 approval, Base dig permit with utility clearances, site security measures, and facility manager notification of the intended operations. Bhate will coordinate project requests for Base installation support services through the 49th Civil Engineering Squadron/Combat Engineer Vehicle (CES/CEV). Pertinent to the start of activities, a pre-construction meeting and site walk-through will be conducted with the USACE Resident Engineer, HAFB personnel, and Bhate Site Manager, to inspect site conditions for site/equipment access, equipment staging, and decontamination area(s), potential site hazards and emergency evacuation routes. Also reviewed at this time will be project procedures in accordance with the schedule and planned activities.

4 PERSONAL PROTECTIVE EQUIPMENT

The following personal protective equipment (PPE) as presented in Table 4-1 will be used for the identified activities based on the best available information about the work requirements and anticipated hazards.

Table 4-1. Personal Protective Equipment by Activity

Activity	Head/Face	Foot	Hands	Respiratory	Clothing
Mobilization / Demobilization	Hard Hat (for overhead hazards), Safety Glasses[1] with rigid side shields	Steel toed boots	Leather gloves as needed	None[3, 4]	Minimum of long pants and shirts with a minimum 4-inch sleeve
General Site Labor	Hard Hat (for overhead hazards), Safety Glasses[1] with rigid side shields	Steel toed boots	Leather gloves as needed	None[3, 4]	Minimum of long pants and shirts with a minimum 4-inch sleeve
Equipment Operation	Hard Hat[2] (for overhead hazards), Safety Glasses[1] with rigid side shields	Steel toed boots Boot covers for entering and exiting equipment	Leather gloves as needed	None[3, 4] N95 Air Purifying Respirator with Organic vapor cartridges based on monitoring	Minimum of long pants and shirts with a minimum 4-inch sleeve
Equipment Decontamination	Hard Hat[2] (for overhead hazards), Safety Glasses[1] with rigid side shields	Steel toed boots Boot covers	Chemical resistant gloves	None[3, 4] N95 Air Purifying Respirator with Organic vapor cartridges based on monitoring	Minimum of long pants and shirts with a minimum 4-inch sleeve Tyvek coveralls may be worn as recommended by the SSHO[5]
Soil and Groundwater Sampling	Hard Hat[2] (for overhead hazards), Safety Glasses[1] with rigid side shields	Steel toed boots	Chemical resistant gloves	None[3, 4] N95 Air Purifying Respirator with Organic vapor cartridges based on monitoring	Minimum of long pants and shirts with a minimum 4-inch sleeve Tyvek coveralls may be worn as recommended by the SSHO

Table 4-2. Personal Protective Equipment by Activity (continued)

Activity	Head/Face	Foot	Hands	Respiratory	Clothing
Supervision of work	Hard Hat (for overhead hazards), Safety Glasses[1] with rigid side shields	Steel toed boots	Leather gloves as needed	None[3, 4]	Minimum of long pants and shirts with a minimum 4-inch sleeve

Notes:
[1] Safety Glasses with rigid side shields approved by American National Standards Institute (ANSI) Z-87 required at all times.
[2] Hard hats are not required inside fully enclosed equipment cabs.
[3] Voluntary use of respirators is authorized for comfort from nuisance dusts and odors, provided they are issued and used in accordance with established respiratory protection program procedures.
[4] Cartridge change out will occur at the following conditions:

- Damage to cartridge
- Cartridge is wet, restriction in breathing, unusual odors
- Cartridge is visibly clogged with dust, restriction in breathing
- After 40 hours of use with no continuous exposures over the established Permissible Exposure Limits (PELs)
- Changes that may be otherwise identified in 29 Code of Federal Regulations (CFR) §1910.120.

The following qualified person certifies that the selection of PPE is based on best available information about the work requirements and anticipated hazards.

Printed name: **Brian Muller** **Bhate Health and Safety Manager**	**Signature:**	**Date: 11-28-06**

5 SITE MONITORING

Site monitoring (if necessary) will be conducted using direct-reading instruments primarily in the workers' breathing zone. To the extent feasible, site operations will be conducted and modified as needed to ensure that personnel are situated upwind of the well installation activities. Initial upwind background and work-zone readings will be obtained before the initiation of activities. Readings of breathing zones (unless location is otherwise specified) will be taken periodically during all activities. The SSHO has the authority to modify the level of protection required for work at this site as well as halt operations as deemed necessary to control personal exposures. Monitoring results will be recorded on an Atmospheric Monitoring Log Field Health and Safety form maintained by the SSHO. Monitoring, calibrating, and maintaining instruments are the responsibility of the SSHO. Table 5-1 summarizes the site monitoring parameters and action levels applicable for direct reading exposure monitoring.

Table 5-1. Direct Reading Exposure Monitoring

Activity(s)	Compound / Instrument	Action Level(s) and Frequency	Actions
Soil boring and well installation	Total Volatile Organic Compounds (VOCs) / Photoionization Detector (PID)	<5 parts per million (ppm)	Continue work based on Occupational Safety and Health Administration (OSHA) Short Term Exposure Limit (STEL) for benzene at 5 ppm and continue monitoring.
		5 - 10 ppm (sustained for more than 5 minutes)	Ensure personnel are upwind, notify the Site Manager. SSHO may upgrade PPE to Level C respiratory protection with organic vapor cartridge, as necessary. Evaluate need for additional ventilation.
		> 10 ppm	Stop work, have personnel leave the area and apply ventilation until levels are acceptable to continue to work. If this level persists evacuate the area and make notification to the HSM.

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6 SITE CONTROL

6.1 Site Activities

Site-specific site control measures will be used to control access to each work area. Tables 6-1 and 6-2 summarize the site control requirements applicable for both general work areas and work areas with potentially contaminated soils, respectively.

Table 6-1. Site Control for General Work Area(s)

Location	Site Control Procedure (discuss important elements such as signs, barricades, fencing, briefings, sign-in/out logs, etc.)
General Work Area	Due to the location of the project sites, access will be coordinated with the Site Manager and HAFB Operations. Access will be made via a specified route.

Table 6-2. Site Control for Potentially Contaminated Area(s)

Location	Site Control Procedure (discuss important elements such as signs, barricades, briefings, qualifications, required supplies and equipment, sign-in/out logs, etc.)
Support Zone	Located outside of contaminated areas, access will be from clean areas or from the Exclusion Zone through the Contamination Reduction Zone.
Contamination Reduction Zone	The Contamination Reduction Zone will be demarcated with caution tape or temporary construction fencing. Decontamination stations will be located here.
Exclusion Zone	Exclusion Zone work areas will be clearly demarcated with caution tape or temporary construction fencing. All access to this area will require the use of a sign-in/out log.

6.2 Decontamination

Required decontamination procedures are described below in Table 6-3.

Table 6-3. Decontamination Procedures by Location

Type of decontamination	Decontamination Methods
Personnel decontamination	Personnel will be required to thoroughly wash hands and face prior to eating, drinking, or smoking. Disposable PPE will be collected for proper disposal. Additional decontamination procedures will be developed by the SSHO as needed.
Equipment decontamination	Work efforts will be made to minimize equipment contact with contaminated materials. Prior to leaving the work area, equipment (tires, hand tools) will be dry decontaminated. Decontamination tools may include brooms and shovels.

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7 COMMUNICATIONS

Cellular telephones will be available to summon emergency services as required. Refer to Sections 10, 11, and 12 of this Site-Specific Addendum (SSA) to the HASP for site specific guidance on emergency situations and appropriate actions. Site communication amongst workers shall be a combination of verbal and line of sight hand communications.

Cellular telephone use is not permitted while operating equipment.

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8 MEDICAL SURVEILLANCE AND TRAINING

The medical surveillance and training requirements for Bhate's on-site personnel working on the soil boring, soil sampling, well installation, and groundwater sampling activities will follow the requirements outlined in the Basewide HASP Sections 7.4 and 5, respectively.

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9 HAZARDOUS CHEMICALS

Hazardous chemicals (as defined in 29 CFR §1910.1200) to be brought or used on-site are identified below. This chemical inventory and associated Material Safety Data Sheet (MSDSs) will be maintained by the SSHO.

Table 9-1. Hazardous Chemicals Brought On-Site

Chemical Name	Amount	Location	Purpose
Assorted fuels, lubricants, coolants, etc. necessary for equipment operation	No storage planned. Quantities limited to immediate use requirements of on-site equipment.	No storage planned. Materials to be brought on-site by vendor's maintenance vehicle.	Equipment Servicing and Operation

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10 EMERGENCY ACTION AND RESPONSE

Personnel responsible for coordinating emergency response actions during soil boring, well installation, and soil and groundwater sampling are identified below in Table 10-1. A map showing directions to the authorized medical facility is included in Section 12 of this SSA.

Table 10-1. Emergency Coordinator and Alternate

Responsibility	Name	Phone Number(s)
Task Emergency Coordinator	Mr. John Hymer	Office (505) 679-2100 Cell (505) 491-9171
Alternate Emergency Coordinator	Mr. Dave Rizzuto	Office (505) 679-2100 Cell (505) 430-3965

If an emergency situation develops which requires evacuation of the work area, the evacuation procedures in Table 10-2 shall be followed.

Table 10-2. Evacuation Procedures

Evacuation Step	Methods and comments:
Notify affected workers	Use of site communication methods as applicable
Evacuate to safe location	Assemble at the primary evacuation site (support area outside of the exclusion zone)
Assemble and account for workers	Emergency Coordinator shall account for personnel using site Sign in/Sign out sheet
Notify Fire and Emergency Services	Notification as needed
Complete incident report	Follow the Incident Reporting and Investigation Procedure

Table 10-3 summarizes potential emergency situations and response actions that are applicable.

Table 10-3. Potential Emergency Situations

In case of	Response actions
Injury or illness	Treat injury with applicable First Aid. All work related injuries beyond first aid will result in notification of Emergency Services and notification of the employee supervisor. Any employee requiring advanced medical treatment will be accompanied by a knowledgeable company employee that can answer potential questions on job duties and hazards. Make notifications in accordance with the Incident Reporting and Investigation Procedure (found in Section 10.2.2 of the *Basewide Health and Safety Plan*, Bhate, December, 2003).
Chemical exposure	First Aid shall be provided such as but not limited to: move victim to fresh air, remove contaminated clothing, flush affected skin with water, and seek medical attention.
Fire or explosion	Notify emergency services immediately. All personnel shall evacuate the immediate area of the fire and move to an upwind location. Personnel shall not engage in fire fighting activities (except for use of fire extinguisher) unless trained to do so and only in the incipient stages of fire.
Adverse weather	Tornados, lightning, or other threatening weather conditions will result in an immediate shut down of operations and evacuation of personnel. Lightning proximity will be determined by measuring the time interval between the visually observed lightning flash and the subsequent sound of thunder. An interval less than 30 seconds will prompt the shut down. Operations will be shut down for the period of the storm passing plus an additional 20 minutes.
Material spill or release	Vehicles and equipment will be maintained and inspected so as to prevent fluid leaks. Should any vehicle fluid leaks occur, the equipment will be taken out of service to make necessary repairs and any contaminated material will be cleaned-up and disposed of properly. Spill kits will be available to facilitate prompt containment and clean-up of spills. Notification will be made in accordance with the Incident Reporting and Investigation Procedure. Storage areas will be designed to have secondary containment as required, and work plans will be executed to accommodate stormwater runoff and minimize the potential for contamination spread.

11 EMERGENCY CONTACTS

In the event of an emergency, the following contacts should be made, as appropriate:

HAFB Emergency Number (using HAFB phone system).....9-911
Operators will assist with Medical, Fire, and Police emergencies

HAFB Security Force.....(505) 572-5037

HAFB Fire Protection.....(505) 572-1117

HAFB Hospital – 49th Medical Group (Main switchboard).....(505) 572-2778

Civilian Hospital (Alamogordo) Gerald Champion Regional Medical Center.....(505) 439-6100

After initial contacts have been made and the situation has stabilized, notify the Site Manager SSHO, Senior Project Manager, and/or HSM, as appropriate.

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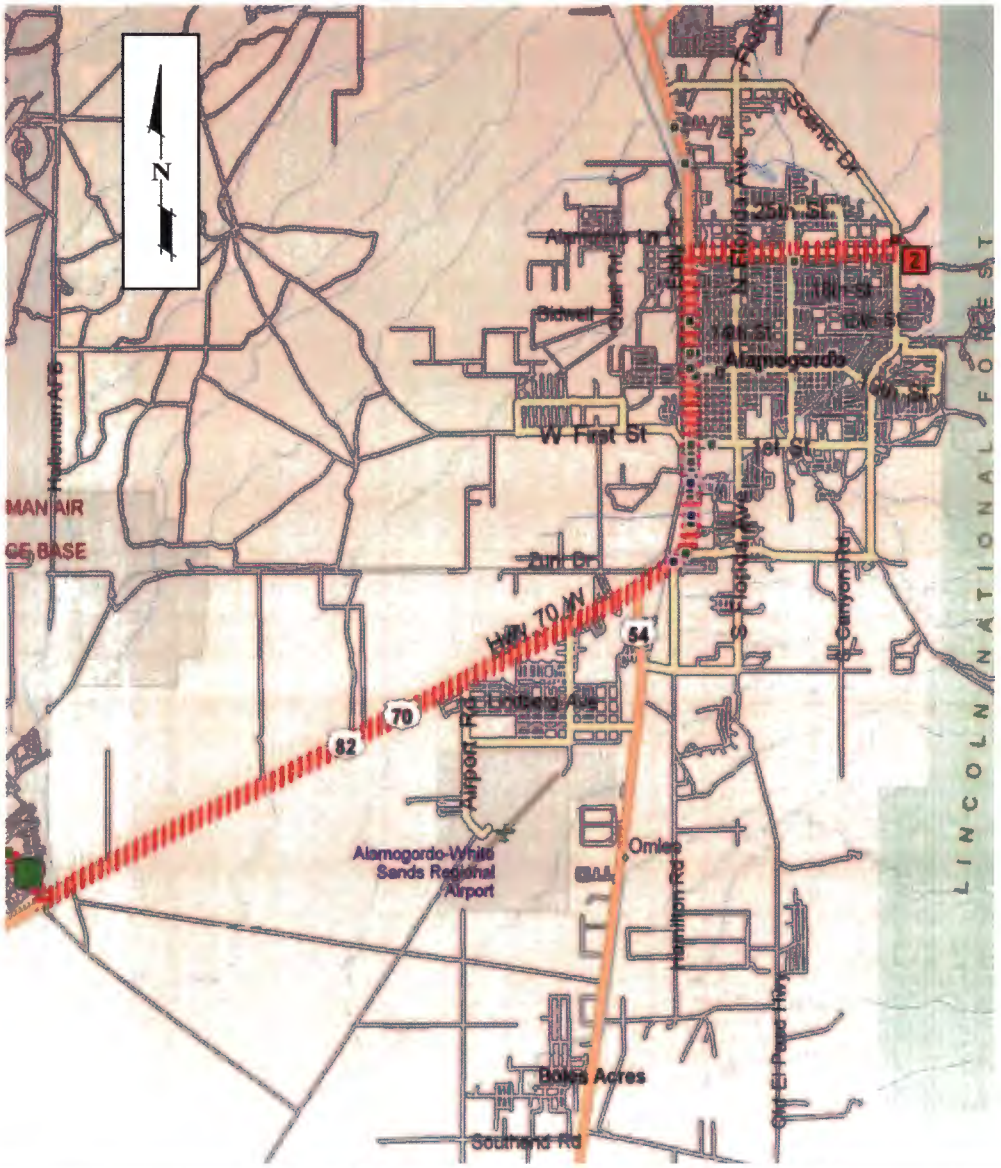
12 HOSPITAL DIRECTIONS

In the event of a true medical emergency ("life or limb"), HAFB Emergency Services should be used. Notification of any injury must be made to HAFB Emergency Services. Bhate personnel and subcontractors should not transport injured personnel to the HAFB Hospital without prior authorization from HAFB Emergency Services.

Other injuries should be treated as necessary at Gerald Champion Regional Medical Center at 2669 Scenic Drive, Alamogordo, NM 88330. From HAFB, exit the Main Gate and proceed east on US-70 onto US-54, continue north on US-54 to Indian Wells Road, turn right heading east to Scenic Drive, and turn left on Scenic proceed to the medical center. A map to this hospital is presented as Figure 12-1.

Figure 12-1. Hospital Route Map



bhate associates ENGINEERING, SCIENCE AND CONSTRUCTION	HOSPITAL ROUTE MAP Holloman Air Force Base to Gerald Champion Regional Hospital Source: Microsoft Expedia Street Maps	Holloman Air Force Base SSA to the HASP Figure 12-1
	Not to Scale / Date January 2007	

ATTACHMENT A

ACTIVITY HAZARD ANALYSES (AHAs)

Activity Hazard Analysis (AHA) – 01

Task: Mobilization Requirements for SS-65, SS-66, SS-67, SS-68, SS-69, TU-71, SS-73, and SS-73	**Bhate Project Number:** 9050360	
Minimum Personal Protective Equipment (PPE): Level D PPE (Long pants, shirts with minimum 4" sleeve, steel toe boots, safety glasses, hard hat for overhead hazards, leather work gloves, and hearing protection, as required)	**Location:** Holloman Air Force Base, New Mexico	
	Analysis Approved by: Brian Muller, CIH	**Date:** January 2007

Activity	Potential Hazards	Recommended Controls
General Site Activities including Mobilization / Demobilization and Site Preparation Note: Each workday shall begin with a mandatory daily safety meeting for all on-site workers	Slips, trips, or falls on walking and working surfaces	• Determine the best access route prior to transporting equipment and tools • Continuously inspect the work area for slip, trip, and fall hazards • Pay attention; ensure safe and secure footing • Maintain clean work areas by following good housekeeping procedures • Be alert for uneven and variable terrain • Wear slip resistant footwear when walking/working on slippery surfaces or slopes
	Site Traffic	• Be aware of potential vehicle traffic while on site • Follow posted warnings and rules for travel around site • Wear high visibility apparel
	Eye injury	• Use approved safety glasses with rigid side shields
	Overhead hazards	• Personnel will be required to wear hard hats that meet ANSI Standard Z89.1 in all areas with overhead hazards
	Cuts, punctures, and abrasions	• Wear leather work gloves when handling materials or using tools
	Dropped objects	• Steel toe boots meeting ANSI Standard Z41 will be worn
	Thermal Stressors (i.e. heat stress, cold stress)	• Employees will have appropriate clothing for variable weather • Use of long sleeves or application of sunscreen with a high sun protection factor (SPF) on exposed skin encouraged • Employees will take breaks and drink plenty of fluids to prevent heat stress • Warming breaks will be permitted as necessary to prevent cold stress

AHA – 01 (continued)

Activity	Potential Hazards	Recommended Controls
Mobilization/Demobilization and Site Preparation (continued)	Back Injury from Materials Handling	• Use proper lifting techniques • Loads greater than 50 pounds require assistance or mechanical equipment • Prior to lifting, check the load for jagged or sharp edges • Avoid torso twisting motions while handling or moving loads
	Inclement weather (Thunderstorms and tornadoes)	• Halt activities immediately and take cover during thunderstorm or tornado warnings, shelter in a building if possible, stay away from windows • If outdoors, stay close to the ground • Listen to radio or television announcements for pending weather information • Do not try to outrun a tornado on foot or in a vehicle
	Biological hazards (spiders, snakes, etc.)	• Workers will inspect the work area carefully and avoid placing hands and feet into concealed areas • Look in direction of travel for biological hazards to avoid
Safety Equipment Used	**Inspection Requirements**	**Training Requirements**
Level D PPE First Aid Kit Fire Extinguisher Eyewash	Informal daily work area inspections to be conducted by the SSHO. Weekly inspection of the job site using the Health and Safety Field Inspection Form.	Site personnel have read and understand the SSA Site personnel possess all of the required training as specified in the SSA Site personnel received site specific safety indoctrination SSHO plus a second on-site person will have Cardiopulmonary Resuscitation (CPR) and First Aid training

AHA – 02

Task: Confirmatory sampling for SS-65, SS-66, SS-67, SS-68, SS-69, TU-71, SS-73, and SS-73	**Bhate Project Number:** 9050360	
Minimum Personal Protective Equipment (PPE): Level D PPE (Long pants, shirts with minimum 4" sleeve, steel toe boots, safety glasses, hard hat for overhead hazards, leather work gloves, and hearing protection, as required)	**Location:** Holloman Air Force Base, New Mexico	
	Analysis Approved by: Brian Muller, CIH	**Date:** January 2007

Activity	Potential Hazards	Recommended Controls
Soil Boring and Sampling	Drill Rig Hazards Including but not limited to: Flying debris, falling objects, noise, hydraulic failures, unguarded machinery, fire, equipment rollover, movement of large, heavy drilling tools, etc.	• Drill rig is to be operated and maintained by qualified operators • A Drill Rig Inspection Checklist should be completed daily to ensure that the rig is operating properly • The inspection will include fittings, cables, pins, connections, lubrication points, controls, emergency stops, etc. • To the extent possible, the terrain should be level and the condition of the ground such that unexpected movement of the rig is unlikely • Stabilize the rig prior to boring • Keep ignition sources out of work area and no smoking. • Keep hands and body parts clear of moving equipment • Wear required PPE (hard hat, safety glasses, work gloves, ear muffs or plugs, steel toe work boots), ensure loose clothing is secured • Maintain good housekeeping on and around drill rig
	Overhead/buried utilities	• Conduct a utility locate to identify the location of underground utilities in boring locations and complete any required dig permits • Overhead utilities should be considered live until determined otherwise • Maintain a minimum distance of 15 feet from overhead utilities • All underground utilities must be clearly marked before beginning work • No borings shall be made within a 4 foot "Buffer Zone" of any utility marking

AHA – 02 (continued)

Activity	Potential Hazards	Recommended Controls
Soil Boring and Sampling (continued)	Exposure to soil contaminants	• To the extent feasible, limit contact with subsurface materials • Wear required PPE when conducting intrusive activities • SSHO shall conduct breathing zone monitoring for VOCs with a PID in accordance with requirements for site monitoring • SSHO may require an upgrade in PPE or modification to work based on monitoring results • Use appropriate decontamination methods
Monitoring Well Installation	Pinch points	• Utilize appropriate PPE (leather gloves) when handling well casings and tools
	Dust	• Use care when installing well materials (sand, bentonite, Portland cement) into monitoring well to prevent dust generation • Position body in an upwind location
Well Development / Groundwater depth measurement / Groundwater sampling	Exposure to groundwater contaminants	• Position body upwind from monitoring well prior to opening cap • Wear appropriate PPE including chemical resistant gloves and Tyvek coveralls to minimize potential contact with groundwater, as appropriate • Conduct work activities in a manner that minimizes potential contact with groundwater • Collect all PPE and disposable sampling equipment and dispose of properly • Wash hands and face prior to eating, drinking, or smoking
Safety Equipment Used	**Inspection Requirements**	**Training Requirements**
Level D PPE First Aid Kit Fire Extinguisher Eyewash	Informal daily work area inspections to be conducted by the SSHO Weekly inspection of the job site using the Health and Safety Field Inspection Form.	Site personnel have read and understand the SSA Site personnel possess all of the required training as specified in the SSA Site personnel received site specific safety indoctrination SSHO plus a second on-site person will have CPR and First Aid training

ATTACHMENT B
PRIMARY CONTAMINANTS OF CONCERN

Properties of the Primary Contaminants of Concern

Contaminant	PEL	TLV	Route(s) of Exposure	Signs and Symptoms of Exposure		Target Organs	IP (eV)	Specific Gravity	VP (mm Hg)	Flash Point (°F)	LEL %	UEL %
				Acute	Chronic							
Benzene	1 ppm 5 ppm STEL	0.5 ppm 2.5 ppm STEL	Inhalation Ingestion Contact Absorption	Irritation of eyes, skin, nose, and throat, headache, dizziness, nausea, staggered gait, fatigue	Cancer (leukemia), adverse reproductive effects (female fertility, birth defects)	Eyes, skin, respiratory system, blood, central nervous system, bone marrow	9.24	0.88	75	12	1.2	7.8
Toluene (OSHA Ceiling is 300 ppm)	200 ppm (750 mg/m^3)	50 ppm (188 mg/m^3)	Inhalation Ingestion Contact Absorption	Irritation of eyes, skin, nose, drowsiness, fatigue, weakness, confusion, headache, nausea, dilated pupils	Liver and kidney damage	Eyes, skin, respiratory system, CNS, liver, kidneys	8.82	0.87	21	40	1.1	7.1
Ethylbenzene	100 ppm (435 mg/m^3)	100 ppm 125 ppm STEL (434 mg/m^3)	Inhalation Ingestion Contact Absorption	Irritation of eyes, and skin, may also cause conjunctivis (eyes)	CNS depression, pulmonary aspiration	CNS, eyes, skin, respiratory system	8.76	0.87	7	55	0.8	6.7
Xylenes (o-, m-, p- isomers)	100 ppm	100 ppm 150 ppm STEL	Inhalation Ingestion Contact Absorption	Irritation of eyes, skin, nose	CNS, permanent brain and nervous system damage	CNS, liver, and urinary system/kidneys	21	0.864	8	76	1.0	7.0

Properties of the Primary Contaminants of Concern (continued)

Contaminant	PEL	TLV	Route(s) of Exposure	Signs and Symptoms of Exposure		Target Organs	IP (eV)	Specific Gravity	VP (mm Hg)	Flash Point (°F)	LEL %	UEL %
				Acute	Chronic							
Trichloroethylene	100 ppm TWA 200 ppm Ceiling 300 ppm 5-min Peak	50 ppm TWA 100 ppm STEL	Inhalation Skin absorption Ingestion Skin and/or eye contact	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	Liver injury; [potential occupational carcinogen] [in animals: liver & kidney cancer]	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system	9.45	1.46	58	NA	8.0	10.5

Notes:

PEL = Permissible Exposure Limit
TLV = Threshold Limit Value
IP = Ionization Potential
eV = Electron volt
VP = Vapor Pressure
mm Hg = Millimeters of mercury
°F = Degrees Fahrenheit
LEL = Lower Explosive Limit
UEL = Upper Explosive Limit
% = Percent
ppm = Parts per million
mg/m^3 = Milligrams per cubic meter of air
CNS = Central Nervous System
NA = Not Applicable
OSHA = Occupational Safety and Health Administration
TWA = Time Weighted Average

APPENDIX F

QUALITY ASSURANCE PROJECT PLAN ADDENDUM

QUALITY ASSURANCE PROJECT PLAN ADDENDUM

RCRA FACILITY ASSESSMENT CONFIRMATORY SAMPLING MULTIPLE SITES HOLLOMAN AIR FORCE BASE, NEW MEXICO

Prepared for:

49 CES/CEV
Holloman Air Force Base
New Mexico

Under Contract To:

U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

Contract No. DACA87-02-D0003
Task Order No. DK01

January 2007

Prepared by:

Bhate Environmental Associates, Inc.
1608 13th Avenue South, Suite 300
Birmingham, Alabama 35205

Bhate Project No. 9050360 01.09

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QUALITY ASSURANCE PROJECT PLAN ADDENDUM

RCRA FACILITY ASSESSMENT
CONFIRMATORY SAMPLING
MULTIPLE SITES
HOLLOMAN AIR FORCE BASE, NEW MEXICO

REVIEW SHEET

COMMITMENT TO IMPLEMENT THIS QUALITY ASSURANCE PROJECT PLAN ADDENDUM		
Michael D'Auben Project Chemist	Signature	Date
Jim Moore, P.G. Project Manager	Signature	Date
John Hymer Site Manager	Signature	Date

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QUALITY ASSURANCE PROJECT PLAN ADDENDUM

RCRA FACILITY ASSESSMENT CONFIRMATORY SAMPLING MULTIPLE SITES HOLLOMAN AIR FORCE BASE, NEW MEXICO

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LIST OF ACRONYMS

AFCEE	Air Force Center for Environmental Excellence
AOC	Areas of Concern
Bhate	Bhate Environmental Associates, Inc.
EDD	Electronic data deliverable
ERPIMS	Environmental Resources Program Information Management System
HAFB	Holloman Air Force Base
LCL	Lower Control Limit
LCS	Laboratory Control Sample
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
MS	Matrix Spike
MSD	Matrix Spike Duplicate
NELAC	National Environmental Laboratory Accreditation Conference
QA	Quality Assurance
QAM	Quality Assurance Manual
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Investigation
RPD	Relative Percent Difference
SOPs	Standard Operating Procedures
STL	Severn Trent Laboratories, Inc.
SVOC	Semi-volatile Organic Compounds
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
UCL	Upper Control Limit
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

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PREFACE

This Quality Assurance Project Plan (QAPP) Addendum has been developed to assure that sample collection, analyses, and evaluations are legally and scientifically defensible for the *RCRA Facility Assessment, Confirmatory Sampling Work Plan, Multiple Sites, Holloman AFB, New Mexico* (Bhate, December 2006) (Resource Conservation and Recovery Act [RCRA] Facility Assessment [RFA] Work Plan). This document is an addendum to the *Basewide Quality Assurance Project Plan, Holloman Air Force Base, New Mexico* (Bhate, November 2003) (Basewide QAPP) and must be used in conjunction with that document. This document contains the site specific information for the work at the sites outlined in the Work Plan.

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1 INTRODUCTION

Bhate Environmental Associates, Inc., (Bhate) has been retained by the U.S. Army Corps of Engineers (USACE), under contract DACA87-02-D0003, Task Order No. DK01, to conduct confirmatory sampling at several of the Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at Holloman Air Force Base (HAFB), New Mexico. This document provides a QAPP Addendum that will serve as the primary analytical quality assurance (QA) document for the confirmatory sampling.

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2 PROJECT LABORATORY

The primary analytical laboratory for this project will be Accutest Southeast of Orlando, Florida (Accutest).

Accutest Southeast
4405 Vineland Road
Suite C-15
Orlando, FL 32811
Phone: (407) 425-6700
Fax: (407) 425-0707

The laboratory personnel who will be involved with this project include:

Ms. Heather Wandrey, Accutest Project Manager

Ms. Svetlana Izosimova, Accutest Quality Assurance Officer

Accutest is certified by the National Environmental Laboratory Accreditation Conference (NELAC) and validated by USACE and has extensive previous experience in working on USACE and Air Force Center for Environmental Excellence (AFCEE) projects. The Accutest Quality Assurance Manual (QAM) and Standard Operating Procedures (SOPs) have been reviewed by Bhate and found to meet all the requirements for this project. The QAM and SOPs are available for further review if required.

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3 DATA CATEGORIES

The data use determines the required levels of data quality. The two levels of data quality established by the USACE are screening and definitive. Under this QAPP Addendum, the data to be generated under each level in these investigations are presented in Table 3-1 (Screening) and Table 3-2 (Definitive). The screening data will be generated in the field using field instruments. The definitive data generated by the laboratory will be presented with limited data deliverables (i.e. Level II data packages), using a 21 day turn-around-time for soil and groundwater samples collected during the additional investigations. All additional investigative definitive data produced by the laboratory will also be presented in an Environmental Resources Program Information Management System (ERPIMS) format electronic data deliverable (EDD).

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4 DATA QUALITY ASSURANCE AND QUALITY CONTROL

The general data QA and quality control (QC) requirements for HAFB are presented in the Basewide QAPP. The field QC requirements for the confirmatory sampling to be conducted are presented in Tables 4-1A through 4-1F. The project specific laboratory QC limits are listed in Table 4-2.

All final definitive data will be reviewed and validated by a Bhate Senior Chemist based on the logic and guidelines of the United States Environmental Protection Agency (USEPA) National Functional Guidelines for Data Validation and the site specific laboratory QC limits presented in this QAPP Addendum.

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5 REFERENCES

Bhate, November 2003. *Final Basewide Quality Assurance Project Plan, Holloman Air Force Base, New Mexico.*

Bhate, December 2006. *RCRA Facility Assessment, Confirmatory Sampling Work Plan, Multiple Sites, Holloman AFB, New Mexico.*

United States Environmental Protection Agency, October 2004. *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.*

United States Environmental Protection Agency, October 1999. *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review.*

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TABLES

Table 3-1
Summary of Screening Data

Parameter	Matrix	Testing Method
pH	Water	Multi-parameter sonde and a flow-through cell
Conductivity	Water	Multi-parameter sonde and a flow-through cell
Turbidity	Water	Multi-parameter sonde and a flow-through cell
Temperature	Water	Multi-parameter sonde and a flow-through cell
Volatile Headspace	Soil	Organic Vapor Analyzer (Flame Ionization Detector)

Table 3-2
Summary of Definitive Data

Parameter	Matrix	Preparation Method	Analytical Method
Polychlorinated Biphenyls (PCBs)	Soil	USEPA Method 3550B	USEPA Method 8082
Semi-volatile Organic Compounds (SVOCs)	Soil	USEPA Method 3550B	USEPA Method 8270C
Total Petroleum Hydrocarbons (TPH)	Soil	USEPA Method 5030B and 3550B	USEPA Method 8015M
Target Analyte List (TAL) Metals	Soil	USEPA Method 3050B	USEPA Methods 6010B and 7471A
Volatile Organic Compounds (VOCs)	Soil	USEPA Method 5035B	USEPA Method 8260B
PCBs	Groundwater	USEPA Method 3510C	USEPA Method 8082
SVOCs	Groundwater	USEPA Method 3520C	USEPA Method 8270C
Target Analyte List (TAL) Metals	Groundwater	USEPA Method 3010A and 7470A	USEPA Methods 6010B and 7470A
Total Dissolved Solids (TDS)	Groundwater	USEPA Method 160.1	USEPA Method 160.1
TPH	Groundwater	USEPA Method 3510C	USEPA Method 8015M
VOCs	Groundwater	USEPA Method 5030B	USEPA Method 8260B

Notes:
USEPA = United States Environmental Protection Agency

Table 4-1A
Summary of Confirmatory Sampling Field QC Samples
SS-72 TCE Groundwater Contamination Upgradient of LF-21

Matrix	Analysis	Number of Field Samples	Equipment Blanks	Trip Blanks*	Field Duplicates	Field Splits	MS/MSD	Total
Soil	SVOCs by EPA Method 8270C	3	0	0	1	0	1	5
	VOCs by EPA Method 8260B	3	0	1	1	0	1	6
Groundwater	Total Dissolved Solids by EPA Method 160.1	3	0	0	1	0	1	5
	VOCs by EPA Method 8260B	3	0	1	1	0	1	6

Notes:
*Estimated, one trip blank will accompany every shipment of volatile samples
EPA = Environmental Protection Agency
SVOCs = Semi-volatile Organic Compounds
VOCs = Volatile Organic Compounds
MS/MSD = Matrix Spike/Matrix Spike Duplicate

Table 4-1B
Summary of Confirmatory Sampling Field QC Samples
SS-73, TCE in Groundwater Adjacent to SS-61

Matrix	Analysis	Number of Field Samples	Equipment Blanks	Trip Blanks*	Field Duplicates	Field Splits	MS/MSD	Total
Soil	SVOCs by EPA Method 8270C	3	0	0	1	0	1	5
	VOCs by EPA Method 8260B	3	0	1	1	0	1	6
Groundwater	Total Dissolved Solids by EPA Method 160.1	3	0	0	1	0	1	5
	VOCs by EPA Method 8260B	3	0	1	1	0	1	6

Notes:
*Estimated, one trip blank will accompany every shipment of volatile samples
EPA = Environmental Protection Agency
SVOCs = Semi-volatile Organic Compounds
VOCs = Volatile Organic Compounds
MS/MSD = Matrix Spike/Matrix Spike Duplicate

Table 4-1C
Summary of Confirmatory Sampling Field QC Samples
SS-65, Building 807 Test Cell Surface Spill

Matrix	Analysis	Number of Field Samples	Equipment Blanks	Trip Blanks*	Field Duplicates	Field Splits	MS/MSD	Total
Soil	PCBs by EPA Method 8082	1	0	0	1	0	1	3
	TAL Metals by EPA Method 6010B/7471A	1	0	0	1	0	1	3
	SVOCs by EPA Method 8270C	1	0	0	1	0	1	3
	TPH by EPA Method 8015M	1	0	0	1	0	1	3
	VOCs by EPA Method 8260B	1	0	1	1	0	1	4
Groundwater	PCBs by EPA Method 8082	1	0	0	1	0	1	3
	TAL Metals by EPA Method 6010B/7470A	1	0	0	1	0	1	3
	SVOCs by EPA Method 8270C	1	0	0	1	0	1	3
	Total Dissolved Solids by EPA Method 160.1	1	0	0	1	0	1	3
	TPH by EPA Method 8015M	1	0	0	1	0	1	3
	VOCs by EPA Method 8260B	1	0	1	1	0	1	4

Notes:
*Estimated, one trip blank will accompany every shipment of volatile samples
EPA = Environmental Protection Agency
PCBs = Polychlorinated biphenyls
TAL = Target Analyte List
SVOCs = Semi-volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
MS/MSD = Matrix Spike/Matrix Spike Duplicate

Table 4-1D
Summary of Confirmatory Samping Field QC Samples
SS-66, Building 835 Spills

Matrix	Analysis	Number of Field Samples	Equipment Blanks	Trip Blanks*	Field Duplicates	Field Splits	MS/MSD	Total
Soil	PCBs by EPA Method 8082	1	0	0	1	0	1	3
	TAL Metals by EPA Method 6010B/7471A	1	0	0	1	0	1	3
	SVOCs by EPA Method 8270C	1	0	0	1	0	1	3
	TPH by EPA Method 8015M	1	0	0	1	0	1	3
	VOCs by EPA Method 8260B	1	0	1	1	0	1	4
Groundwater	PCBs by EPA Method 8082	1	0	0	1	0	1	3
	TAL Metals by EPA Method 6010B/7470A	1	0	0	1	0	1	3
	Total Dissolved Solids by EPA Method 160.1	1	0	0	1	0	1	3
	TPH by EPA Method 8015M	1	0	0	1	0	1	3
	SVOCs by EPA Method 8270C	1	0	0	1	0	1	3
	VOCs by EPA Method 8260B	1	0	1	1	0	1	4

Notes:
*Estimated, one trip blank will accompany every shipment of volatile samples
EPA = Environmental Protection Agency
PCBs = Polychlorinated biphenyls
TAL = Target Analyte List
SVOCs = Semi-volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
MS/MSD = Matrix Spike/Matrix Spike Duplicate

Table 4-1E
Summary of Confirmatory Sampling Field QC Samples
SS-67, Building 903-909 Sandblast Residue

Matrix	Analysis	Number of Field Samples	Equipment Blanks	Trip Blanks*	Field Duplicates	Field Splits	MS/MSD	Total
Soil	TAL Metals by EPA Method 6010B/7471A	2	0	0	1	0	1	4
	SVOCs by EPA Method 8270C	2	0	0	1	0	1	4
	TPH by EPA Method 8015M	2	0	0	1	0	1	4
	VOCs by EPA Method 8260B	2	0	1	1	0	1	5
Groundwater	Total Dissolved Solids by EPA Method 160.1	2	0	0	1	0	1	4
	TAL Metals by EPA Method 6010B/7470A	2	0	0	1	0	1	4
	TPH by EPA Method 8015M	2	0	0	1	0	1	4
	SVOCs by EPA Method 8270C	2	0	0	1	0	1	4
	VOCs by EPA Method 8260B	2	0	1	1	0	1	5

Notes:
*Estimated, one trip blank will accompany every shipment of volatile samples
EPA = Environmental Protection Agency
TAL = Target Analyte List
SVOCs = Semi-volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
MS/MSD = Matrix Spike/Matrix Spike Duplicate

Table 4-1F
Summary of Confirmatory Sampling Field QC Samples
SS-69, Fighter Wing Flight Line Spill

Matrix	Analysis	Number of Field Samples	Equipment Blanks	Trip Blanks*	Field Duplicates	Field Splits	MS/MSD	Total
Soil	TAL Metals by EPA Method 6010B/7471A	3	0	0	1	0	1	5
	SVOCs by EPA Method 8270C	3	0	0	1	0	1	5
	TPH by EPA Method 8015M	3	0	0	1	0	1	5
	VOCs by EPA Method 8260B	3	0	1	1	0	1	6
Groundwater	Total Dissolved Solids by EPA Method 160.1	3	0	0	1	0	1	5
	TAL Metals by EPA Method 6010B/7470A	3	0	0	1	0	1	5
	TPH by EPA Method 8015M	3	0	0	1	0	1	5
	SVOCs by EPA Method 8270C	3	0	0	1	0	1	5
	VOCs by EPA Method 8260B	3	0	1	1	0	1	6

Notes:
*Estimated, one trip blank will accompany every shipment of volatile samples
EPA = Environmental Protection Agency
TAL = Target Analyte List
SVOCs = Semi-volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons
VOCs = Volatile Organic Compounds
MS/MSD = Matrix Spike/Matrix Spike Duplicate

Table 4-2
Summary of Laboratory QC Limits

Parameter	RL		LCS				Matrix Spike Water			Matrix Spike Soil		
			Water		Soil		MS Recovery		MSD	MS Recovery		MSD
	Water	Soil	LCL	UCL	LCL	UCL	LCL	UCL	RPD	LCL	UCL	RPD
VOCs by EPA Method 8260B	µg/L	µg/kg	%	%	%	%	%	%	%	%	%	%
Acetone	10	20	48	130	45	184	48	130	41	45	184	28
Benzene	1	5	77	118	76	116	77	118	20	76	116	20
Bromobenzene	1	5	75	115	74	114	75	115	20	74	114	22
Bromochloromethane	1	5	78	118	77	117	78	118	20	77	117	21
Bromodichloromethane	1	5	78	118	74	125	78	118	20	74	125	20
Bromoform	1	5	74	121	75	115	74	121	21	75	115	20
Bromomethane	2	10	42	154	40	149	42	154	24	40	149	22
2-Butanone (MEK)	6	20	57	120	58	150	57	120	32	58	150	32
n-Butylbenzene	1	5	76	117	66	130	76	117	21	66	130	22
sec-Butylbenzene	1	5	80	120	79	128	80	120	21	79	128	22
tert-Butylbenzene	1	5	76	116	77	124	76	116	21	77	124	20
Carbon tetrachloride	1	5	80	120	69	147	80	120	21	69	147	20
Chlorobenzene	1	5	78	118	74	114	78	118	20	74	114	20
Dibromochloromethane	1	5	76	116	74	114	76	116	20	74	114	22
Chloroethane	2	10	51	133	51	155	51	133	25	51	155	20
Chloroform	1	10	78	118	77	125	78	118	20	77	125	25
Chloromethane	2	10	46	142	47	148	46	142	24	47	148	22
2-Chlorotoluene	1	5	76	116	80	120	76	116	20	80	120	20
4-Chlorotoluene	1	5	78	118	77	117	78	118	20	77	117	28
1,2-Dibromo-3-chloropropane	5	10	65	117	60	120	65	117	22	60	120	20
1,2-Dibromoethane (EDB)	1	5	77	117	75	115	77	117	20	75	115	20
Dibromomethane	1	5	77	117	77	117	77	117	20	77	117	20
1,2-Dichlorobenzene	1	5	76	116	72	112	76	116	20	72	112	20
1,3-Dichlorobenzne	1	5	75	115	74	114	75	115	20	74	114	20
1,4-Dichlorobenzene	1	5	77	117	73	113	77	117	23	73	113	22
Dichlorodifluoromethane	2	10	56	140	42	178	56	140	24	42	178	28
1,1-Dichloroethane	1	5	77	117	74	114	77	117	21	74	114	20
1,2-Dichloroethane	1	5	74	120	62	142	74	120	20	62	142	20
cis-1,2-Dichloroethylene	1	2.5	75	115	75	115	75	115	20	75	115	20
trans-1,2-Dichloroethylene	1	2.5	80	120	82	127	80	120	24	82	127	20
1,1-Dichloroethylene	1	5	68	133	82	143	68	133	20	82	143	20
1,2-Dichloroethane (total)	1	5	78	118	80	120	78	118	20	80	120	20
1,2-Dichloropropane	1	5	76	116	74	114	76	116	20	74	114	20
1,3-Dichloropropane	1	5	75	115	72	112	75	115	20	72	112	20
2,3-Dichloropropane	5	5	72	128	64	144	72	128	24	64	144	20
cis-1,3-Dichloropropene	1	5	76	116	77	117	76	116	20	77	117	20
trans-1,3-Dichloropropene	1	5	72	117	71	120	72	117	20	71	120	20
1,1-Dichloropropene	1	5	75	115	76	123	75	115	21	76	123	20
Ethylbenzene	1	5	78	118	78	118	78	118	26	78	118	20
Hexachlorobutadiene	1	5	73	123	69	125	73	123	25	69	125	25

Table 4-2
Summary of Laboratory QC Limits

Parameter	RL		LCS				Matrix Spike Water			Matrix Spike Soil		
			Water		Soil		MS Recovery		MSD	MS Recovery		MSD
	Water	Soil	LCL	UCL	LCL	UCL	LCL	UCL	RPD	LCL	UCL	RPD
VOCs by EPA Method 8260B (continued)	µg/L	µg/kg	%	%	%	%	%	%	%	%	%	%
2-Hexanone	5	20	57	121	58	136	57	121	25	58	136	29
Isopropylbenzene	1	5	71	111	71	111	71	111	20	71	111	20
Methyl chloride	1	5	71	119	76	116	71	119	20	76	116	21
4-Methyl-2-pentanone	5	20	65	118	62	130	65	118	22	62	130	25
Methyl tert butyl ether	5	20	58	116	69	129	58	116	21	69	129	20
Naphthalene	5	5	62	121	65	113	62	121	32	65	113	38
n-Propylbenzene	1	5	76	116	79	120	76	116	20	79	120	22
Styrene	1	5	77	117	77	117	77	117	20	77	117	20
1,1,1,2-Tetrachloroethane	1	5	77	117	76	116	77	117	20	76	116	20
1,1,2,2-Tetrachloroethane	1	5	73	119	68	119	73	119	20	68	119	21
Tetrachloroethylene	1	5	77	117	71	111	77	117	20	71	111	20
Toluene	1	5	73	120	72	113	73	120	20	72	113	20
1,2,3-Trichlorobenzene	1	5	66	123	69	113	66	123	29	69	113	31
1,2,4-Trichlorobenzene	1	5	73	121	73	116	73	121	25	73	116	26
1,1,1-Trichloroethane	1	5	78	118	67	143	78	118	20	67	143	20
1,1,2-Trichloroethane	1	5	76	116	69	109	76	116	21	69	109	20
Trichloroethylene	1	5	78	122	78	118	78	122	20	78	118	20
Trichlorofluoromethane	2	10	63	135	50	155	63	135	20	50	155	33
1,2,3-Trichloropropane	1	5	72	120	72	122	72	120	23	72	122	21
1,2,4-Trimethylbenzene	1	5	77	117	78	126	77	117	20	78	126	20
1,3,5-Trimethylbenzene	1	5	77	117	77	125	77	117	20	77	125	21
Vinyl chloride	1	5	49	136	45	148	49	136	24	45	148	24
m-Xylene & p-Xylene	2	2.5	78	118	77	117	78	118	20	77	117	20
o-Xylene	1	2.5	77	117	77	117	77	117	20	77	117	20
Xylenes, Total	2	5	77	117	77	117	77	117	20	77	117	20
4-Bromofluorobenzene (surr)	--	--	78	118	76	127	--	--	--	--	--	--
1,2-Dichloroethane-D4 (surr)	--	--	70	127	58	140	--	--	--	--	--	--
Toluene-D8 (surr)	--	--	83	125	80	126	--	--	--	--	--	--
Dibromofluoromethane (surr)	--	--	77	119	75	121	--	--	--	--	--	--
SVOCs by EPA Method 8270C	µg/L	µg/kg	%	%	%	%	%	%	%	%	%	%
Acenaphthene	10	330	53	120	52	120	53	120	30	52	120	30
Acenaphthylene	10	330	54	120	53	120	54	120	30	53	120	30
Anthracene	10	330	56	120	57	120	56	120	30	57	120	30
Benzo(a)anthracene	10	660	54	120	55	120	54	120	30	55	120	30
Benzo(b)fluoranthene	10	660	57	120	52	120	57	120	30	52	120	44
Benzo(k)fluoranthene	10	660	52	120	54	120	52	120	30	54	120	30
Benzo(g,h,i)perylene	10	660	53	120	50	120	53	120	30	50	120	31
Benzo(a)pyrene	10	660	53	120	54	120	53	120	30	54	120	30
bis(2-Chloroethoxy)methane	10	330	52	120	49	120	52	120	30	49	120	30

Table 4-2
Summary of Laboratory QC Limits

Parameter	RL		LCS				Matrix Spike Water			Matrix Spike Soil		
			Water		Soil		MS Recovery		MSD	MS Recovery		MSD
	Water	Soil	LCL	UCL	LCL	UCL	LCL	UCL	RPD	LCL	UCL	RPD
SVOCs by EPA Method 8270C	µg/L	µg/kg	%	%	%	%	%	%	%	%	%	%
bis(2-Chloroisopropyl)ether	10	660	37	120	47	120	37	120	30	47	120	30
bis(2-Ethylhexyl)phthalate	10	660	48	120	51	120	48	120	30	51	120	30
4-Bromophenyl phenyl ether	10	660	52	120	53	120	52	120	30	53	120	30
Butyl benzyl phthalate	20	660	55	120	49	120	55	120	30	49	120	30
Caprolactam	20	1,600	48	120	49	120	48	120	30	49	120	30
Carbazole	10	330	--	--	54	120	--	--	--	54	120	30
4-Chloroaniline	20	1,300	52	120	28	120	52	120	30	28	120	30
4-Chloro-3-methyl phenol	20	1,300	63	120	57	120	63	120	30	57	120	30
2-Chloronaphthalene	10	330	47	120	53	120	47	120	30	53	120	30
2-Chlorophenol	10	660	57	120	53	120	57	120	30	53	120	30
4-Chlorophenyl phenyl ether	10	660	56	120	55	120	56	120	30	55	120	30
Chrysene	10	660	56	120	55	120	56	120	30	55	120	35
Dibenz(a,h)anthracene	10	660	54	120	55	120	54	120	30	55	120	30
Dibenzofuran	10	660	58	120	56	120	58	120	30	56	120	30
Di-n-butyl phthalate	20	660	52	120	57	120	52	120	30	57	120	30
3,3'-Dichlorobenzidine	20	1,300	29	120	34	120	29	120	30	34	120	30
2,4-Dichlorophenol	10	660	59	120	53	120	59	120	30	53	120	30
Diethyl phthalate	20	660	61	120	57	120	61	120	30	57	120	30
2,4-Dimethylphenol	10	660	41	120	53	120	41	120	30	53	120	30
Dimethyl phthalate	20	660	61	120	57	120	61	120	30	57	120	30
4,6-Dinitro-2-methylphenol	60	3,300	37	126	30	120	37	126	30	30	120	30
2,4-Dinitrophenol	60	3,300	30	136	15	120	30	136	30	15	120	34
2,4-Dinitrotoluene	20	660	51	120	53	120	51	120	30	53	120	30
2,6-Dinitrotoluene	20	660	42	125	53	120	42	125	30	53	120	30
Di-n-octyl phthalate	20	660	47	120	54	120	47	120	30	54	120	30
Fluoranthene	20	660	49	120	55	120	49	120	30	55	120	30
Fluorene	10	660	57	120	55	120	57	120	30	55	120	30
Hexachlorobenzene	10	660	53	120	51	120	53	120	30	51	120	30
Hexachlorobutadiene	10	660	40	120	48	120	40	120	30	48	120	30
Hexachlorocyclopentadiene	10	660	10	120	35	120	10	120	30	35	120	30
Hexachloroethane	10	660	36	120	46	120	36	120	30	46	120	30
Indeno(1,2,3-cd)pyrene	10	660	56	120	54	120	56	120	30	54	120	30
2-Methylnaphthalene	10	660	54	120	55	120	54	120	30	55	120	30
2-Methylphenol	10	660	50	120	51	120	50	120	30	51	120	30
4-Methylphenol	20	660	54	120	53	120	54	120	30	53	120	30
Naphthalene	10	660	46	120	50	120	46	120	30	50	120	30
2-Nitroaniline	50	3,300	44	120	50	120	44	120	30	50	120	30
3-Nitroaniline	50	3,300	49	120	35	120	49	120	30	35	120	30
4-Nitroaniline	50	3,300	39	120	44	120	39	120	30	44	120	30
Nitrobenzene	20	660	41	120	49	120	41	120	30	49	120	30

Table 4-2
Summary of Laboratory QC Limits

Parameter	RL		LCS				Matrix Spike Water			Matrix Spike Soil		
			Water		Soil		MS Recovery		MSD	MS Recovery		MSD
	Water	Soil	LCL	UCL	LCL	UCL	LCL	UCL	RPD	LCL	UCL	RPD
SVOCs by EPA Method 8270C (continued)	µg/L	µg/kg	%	%	%	%	%	%	%	%	%	%
2-Nitrophenol	20	660	51	120	53	120	51	120	30	53	120	30
4-Nitrophenol	50	3,300	49	120	41	120	49	120	30	41	120	30
N-Nitrosodiphenylamine	10	660	58	120	55	120	58	120	30	55	120	36
n-Nitrosodi-n-propylamine	20	660	46	120	51	120	46	120	30	51	120	30
Pentachlorophenol	60	3,300	52	120	30	120	52	120	30	30	120	30
Phenanthrene	10	660	57	120	58	120	57	120	30	58	120	30
Phenol	10	660	52	120	54	120	52	120	30	54	120	30
Pyrene	10	660	56	120	50	120	56	120	30	50	120	38
2,4,5-Trichlorophenol	20	660	--	--	56	120	--	--	--	56	120	30
2,4,6-Trichlorophenol	20	660	52	120	50	120	52	120	30	50	120	30
2-Fluorobiphenyl (surr)	--	--	49	120	--	--	--	--	--	--	--	--
2-Fluorophenol (surr)	--	--	51	120	--	--	--	--	--	--	--	--
2,4,6-Tribromophenol (surr)	--	--	57	120	--	--	--	--	--	--	--	--
Nitrobenzene-d5 (surr)	--	--	48	120	--	--	--	--	--	--	--	--
Phenol-d5 (surr)	--	--	51	120	--	--	--	--	--	--	--	--
Terphenyl-d14 (surr)	--	--	61	120	--	--	--	--	--	--	--	--
PCBs by EPA Method 8082	µg/L	mg/kg	%	%	%	%	%	%	%	%	%	%
Aroclor 1016	1.0	10	61	125	71	118	53	130	30	71	118	36
Aroclor 1221	1.0	10	--	--	--	--	--	--	--	--	--	--
Aroclor 1232	1.0	10	--	--	--	--	--	--	--	--	--	--
Aroclor 1242	1.0	10	--	--	--	--	--	--	--	--	--	--
Aroclor 1248	1.0	10	--	--	--	--	--	--	--	--	--	--
Aroclor 1254	1.0	10	--	--	--	--	--	--	--	--	--	--
Aroclor 1260	1.0	10	63	129	65	123	58	150	30	65	123	36
Decachlorobiphenyl (surr)	1.0	--	29	143	68	125	--	--	--	--	--	--
Tetrachloro-m-xylene (surr)	--	--	41	117	67	129	--	--	--	--	--	--
Metals by EPA Method 6010B/7470A/7471A	µg/L	mg/kg	%	%	%	%	%	%	%	%	%	%
Aluminum	100	10	87	111	82	116	83	119	25	50	200	30
Antimony	10	1.5	88	108	82	102	81	124	25	20	200	30
Arsenic	15	2	88	109	85	104	84	124	25	76	111	30
Barium	10	1	92	112	87	112	85	120	25	52	159	30
Beryllium	5	0.5	89	113	84	114	79	121	25	72	105	30
Cadmium	5	0.5	88	111	87	107	82	119	25	40	130	30
Calcium	200	20	90	111	82	114	48	153	25	43	165	30
Chromium	10	1.5	90	113	84	114	73	135	25	70	200	30
Cobalt	10	1	89	111	87	108	82	119	25	72	106	30
Copper	15	2	86	112	88	109	82	129	25	37	187	30
Iron	100	15	89	116	87	124	52	155	25	70	200	30
Lead	9	0.8	89	109	86	107	89	121	25	70	200	30

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Parameter	RL		LCS				Matrix Spike Water			Matrix Spike Soil		
			Water		Soil		MS Recovery		MSD	MS Recovery		MSD
	Water	Soil	LCL	UCL	LCL	UCL	LCL	UCL	RPD	LCL	UCL	RPD
Metals by EPA Method 6010B/7470A/7471A (continued)	µg/L	mg/kg	%	%	%	%	%	%	%	%	%	%
Magnesium	200	20	92	113	90	110	62	146	25	64	145	30
Manganese	10	1	90	110	88	109	79	121	25	40	200	30
Mercury	0.2	0.033	88	111	88	111	88	111	10	88	111	30
Nickel	40	4	89	111	87	108	84	120	25	61	126	30
Potassium	3,000	300	89	114	89	109	76	132	25	56	172	30
Selenium	15	1.3	90	110	83	103	71	140	25	76	104	30
Silver	10	1	86	120	87	114	75	141	25	75	141	30
Sodium	1,000	500	90	117	90	112	70	203	25	78	111	30
Thallium	15	1.20	88	108	84	106	90	116	25	78	101	30
Vanadium	10	2	91	111	88	108	85	120	25	50	169	30
Zinc	20	3	84	111	76	114	60	137	25	70	200	30
Total Petroleum Hydrocarbons (TPH) by EPA Method 8015M	µg/L	mg/kg	%	%	%	%	%	%	%	%	%	%
TPH-GRO (C6-C10)	25	1.2	79	149	85	153	79	149	27	85	153	30
aaa-Trifluorotoluene (surr)	--	--	82	110	77	123	--	--	--	--	--	--
TPH-DRO (C10-C22)	250	4.0	115	31	56	115	50	115	31	56	115	30
TPH-ORO (>C22-C36)	1,000	4.0	115	31	56	115	50	115	31	56	115	30
o-Terphenyll (surr)	--	--	50	115	49	115	--	--	--	--	--	--
Total Dissolved Solids by EPA Method 160.1	mg/L	mg/kg	%	%	%	%	%	%	%	%	%	%
Total Dissolved Solids	10	--	86	106	--	--	86	106	20	--	--	--

Notes:
µg/kg = Micrograms per kilogram
µg/L = Micrograms per liter
EPA = United States Environmental Protection Agency
LCL = Lower Control Limit
LCS = Laboratory Control Sample
mg/kg = Milligrams per kilogram
mg/L = Milligrams per liter
MS = Matrix Spike
DRO = Diesel range organics
MSD = Matrix Spike Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference
UCL = Upper Control Limit
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
PCBs = Polychlorinated biphenyls
GRO = Gasoline range organics
ORO = Oil range organics