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DEPARTMENT OF THE AIR FORCE

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HOLLOMAN AIR FORCE BASE, NEW MEXICO

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NMED Hazardous Waste Bureau

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Dear New Mexico Environment Department

Holloman Air Force Base is pleased to submit the RCRA Facility Investigation Report (SWMU 122/123) for your review.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact Mr. David Scruggs of our Asset Management Flight at (575) 572-5395.

Sincerely

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FINAL

RCRA FACILITY INVESTIGATION REPORT
SWMUs 122 AND 123
HOLLOMAN AIR FORCE BASE, NEW MEXICO

Prepared For:

49 CES/CEAN
Holloman Air Force Base
New Mexico

Under Contract To:

U.S. Army Corps of Engineers
Albuquerque, New Mexico
4101 Jefferson Plaza Northeast
Albuquerque, New Mexico 87109-3435

Contract No. W912PL-07-D-0050
Delivery Order No. DM01

June 2012

Prepared by:

NATIONVIEW

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Birmingham, Alabama 35205
NationView Project Number: 8080014

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FINAL
RCRA FACILITY INVESTIGATION REPORT
SWMUs 122 AND 123
HOLLOMAN AIR FORCE BASE, NEW MEXICO

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A NMED Correspondence
B Variance Form

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A Historical Data from Previous Investigations
B Soil Boring Logs
C Monitoring Well Construction Diagrams
D Monitoring Well Development Forms
E Monitoring Well Sample Collection Forms
F Analytical Data Packages (Provided on Enclosed CD)
G Data Validation Reports

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LIST OF ACRONYMS

AAF	Army Air Field
amsl	Above mean sea level
bgs	Below ground surface
Bhate	Bhate Environmental Associates, Inc.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
°C	Degrees Celsius
CES/CEAN	Civil Engineering Squadron/Civil Engineering Asset Management Flight
CLSM	Controlled Low-Strength Material
COPC	Chemical of potential concern
cm	Centimeters
cm^3/cm^3	Cubic centimeters per cubic centimeter
DPT	Direct push technology
DQO	Data quality objectives
DRMO	Defense Reutilization Management Office
DRO	Diesel Range Organics
EM	Exposure Model
ERP	Environmental Restoration Program
°F	Degrees Fahrenheit
ft	Feet or foot
ft/ft	Feet per foot
FWENC	Foster Wheeler Environmental Corporation
g/cm^3	Grams per cubic centimeter
g/g	Grams per gram
GPS	Global Positioning System
GRO	Gasoline Range Organics
GTI	Groundwater Technology Government Services, Inc.
H	Henry's Law Constant
HAFB	Holloman Air Force Base
HHMSSL	Human Health Medium Specific Screening Level
HI	Hazard Index
HWB	Hazardous Waste Bureau
IDW	Investigation Derived Waste
IELCR	Individual Excess Lifetime Cancer Risk
J	Data Qualifier (denotes an estimated value)
J&E	Johnson & Ettinger
LCS	Laboratory Control Sample
MCL	Maximum Contaminant Level
MDL	Method detection limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter

NAD	North American Datum
NAPL	Non-Aqueous Phase Liquid
NFA	No Further Action
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
NMWRRS	New Mexico Water Rights Reporting System
NOD	Notice of Deficiency
ORO	Oil Range Organics
OVM	Organic Vapor Meter
PCB	Polychlorinated Biphenyl
PCS	Petroleum contaminated soil
pH	Potential of Hydrogen (measurement of acidity)
PID	Photoionization detector
POL	Petroleum, Oil, and Lubricants
PRG	Preliminary Remediation Goal
PVC	Polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
%R	Percent Recovery
RA	Risk Assessment
RAGS	Risk Assessment Guidance for Superfund
RBC	Risk Based Concentration
RCRA	Resource Conservation Recovery Act
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RPD	Relative Percent Difference
RSL	Regional Screening Level
SOP	Standard Operating Procedure
SSLs	Soil Screening Levels
SVOC	Semi-volatile organic compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TCEQ	Texas Commission on Environmental Quality
TDS	Total dissolved solids
TPH	Total petroleum hydrocarbons
TRPH	Total recoverable petroleum hydrocarbons
UJ	Data Qualifier (denotes an estimated non-detected value)
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTL	Upper Tolerance Limit
VCM	Voluntary Corrective Measures
VOC	Volatile organic compound
WRCC	Western Regional Climate Center

1 INTRODUCTION

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report was prepared for the Holloman Air Force Base (HAFB) 49th Civil Engineering Squadron/Environmental Asset Management Flight (CES/CEAN) by NationView, LLC under U.S. Army Corps of Engineers (USACE), Albuquerque District Contract W912PL-07-D-0050, Delivery Order No. DM01. This report presents the results of the RFI conducted by NationView between July 7 and July 15, 2009, at Solid Waste Management (SWMU) Unit 122 (Building 702 Waste Oil Tank) and SWMU 123 (Building 704 Waste Oil Tank), HAFB, New Mexico. SWMU 122 and SWMU 123 are listed in Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422), Appendix 4-A (New Mexico Environment Department [NMED], 2005), which requires the site to be investigated and undergo corrective action if warranted.

All of the field work performed during this RFI was conducted in accordance with the approved *Final RCRA Facility Investigation Work Plan, SWMUs 122 and 123, Holloman AFB, New Mexico* (NationView, 2009) and the RFI requirements set forth in the HAFB Hazardous Waste Facility Permit No. NM6572124422, Appendix 4-B (NMED, 2004a). The Final SWMU 122 and 123 Work Plan (NationView, 2009) was revised to address deficiencies outlined by the NMED in correspondence dated May 22 and October 7, 2009 and was approved by the NMED on February 19, 2010. NMED correspondence and the applicable responses to NMED comments are provided in Attachment A. The preparation and submittal of this RFI Report was substantially delayed at the request of the NMED until the background levels for naturally occurring constituents (e.g. metals) at HAFB could be finalized (NMED, 2011).

1.1 Project Objectives

The primary purpose of this RFI was to review available information and to collect additional soil and groundwater analytical data to fill data gaps in order to identify and characterize potential releases associated with the Building 702 and Building 704 waste oil tanks, SWMU 122 and 123, respectively.

The project objectives of the SWMU 122 and 123 RFI were to:

1. Identify potential releases to the subsurface soil and groundwater from the previously removed Building 702 Waste Oil Tank (SWMU 122).
2. Delineate the downgradient horizontal extent of Volatile Organic Compound (VOC) (benzene, toluene, ethylbenzene, and xylene [BTEX]) groundwater contamination from the previously removed Building 704 Waste Oil Tank (SWMU 123) that has been identified under the Petroleum, Oil, and Lubricants (POL) Washrack.
3. Collect sufficient analytical data to complete a site-specific risk assessment of the groundwater exposure pathways.

4. Collect the proper data to meet the data quality objectives (DQOs) to support closure of these two sites based on guidance from the NMED.

This document also describes the excavation and confirmation soil sampling activities for the Voluntary Corrective Measures (VCM) which was conducted at SWMU 123 by Bhate Environmental Associates (Bhate) between October 2005 and January 2006. Additionally, this document summarizes the previously known subsurface conditions including the extent of petroleum contaminated soil (PCS), and impacts to groundwater. During this process, required data were collected to support the closure of the sites based on guidance from the NMED. The ultimate objective is to achieve a No Further Action (NFA) Status under NFA Criterion 5 (Appendix 4-B HAFB Hazardous Waste Facility Permit No. NM6572124422), (NMED, 2004a) and obtain a Class III permit modification to remove these SWMUs from Table A of the HAFB Hazardous Waste Facility Permit. NFA Criterion 5 states:

> *"The site was characterized or remediated in accordance with applicable state and/or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use."*

This criterion was accomplished by removing all of the PCS that was located below the POL washrack and the POL washrack structure which are south and southeast of SWMU 123. A detailed description of the SWMU 123 PCS removal action (excavation and disposal/ treatment) along with confirmation sampling analytical results collected during the VCM are provided in Section 2.6.8 of this report.

1.2 Document Organization

This RCRA Facility Investigation Completion Report is organized according to the format suggested in Appendix 4-B of the RFI Report Requirements found in the HAFB RCRA Permit NM6572124422 (Appendix 4-B of the Permit) (NMED, 2004a). The document contains the following 10 sections:

- Section 1 – Introduction
- Section 2 – Site Background
- Section 3 – Environmental Setting
- Section 4 – Source Characterization
- Section 5 – Field Activities
- Section 6 – Laboratory Analysis and Data Validation Summary
- Section 7– Nature and Extent of Contamination
- Section 8 – Risk Based Evaluation
- Section 9 – Conclusions and Recommendations
- Section 10 – References

The tables and figures referenced throughout this RFI Report are included following the text (after Section 10). This report also includes the following attachments and appendices:

- Attachment A – NMED Correspondence
- Attachment B – Variance Form
- Appendix A – Historical Data from Previous Investigations
- Appendix B – Soil Boring Logs
- Appendix C – Monitoring Well Construction Diagrams
- Appendix D – Monitoring Well Development Forms
- Appendix E – Monitoring Well Sample Collection Forms
- Appendix F – Analytical Data Packages (Provided on Enclosed CD)
- Appendix G – Data Validation Reports

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2 SITE BACKGROUND

2.1 HAFB Facility Description and Operational History

HAFB is located in south central New Mexico, in the northwest central part of Otero County, approximately 75 miles north-northeast of El Paso, Texas (Figure 2-1). HAFB has a population of 6,000, and supports approximately 21,000 active-duty Air Force, National Guard, Air Force Reserve, retirees, civilians, and their family members. HAFB occupies approximately 59,600 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 is located approximately 7 miles east of the base and has a population of approximately 35,000.

HAFB was first established in 1942 as Alamogordo Army Air Field (AAF). From 1942 through 1945, Alamogordo AAF served as the training ground 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, conducting fighter aircraft training and operations. HAFB has also served as the German Air Force's Tactical Training Center since 1996.

2.2 SWMU 122 and 123 Site Description and Background

SWMUs 122 and 123 are located in an industrial area within the northeastern portion of the main base area (Figure 2-2). Specifically SWMUs 122 and 123 are located near the northwestern and northeastern corners of the POL Washrack (Figure 2-3) which is located within the fenced area of the POL Facility off Delaware Avenue. The two former underground waste oil tanks received oil and fuels removed from two underground oil/water separators which collected wash water from the POL Washrack. The two former oil/water separators (SWMUs 21 and 22) were also located along the north side of the POL Washrack (Figure 2-3). During the early 1990s the POL Washrack was renovated and the two waste oil tanks (SWMUs 122 and 123) and the associated oil/water separators (SWMUs 21 and 22) were removed and replaced with a new oil-water separator and waste oil tank also shown on Figure 2-3.

2.3 POL Washrack Activities and Waste Generation

Historically the POL Washrack (Building 703 Washrack) generated wash water from cleaning vehicles and equipment. The POL Washrack was equipped with two oil/water separators (SWMUs 21 and 22) which received the wash water containing oil, hydraulic fluid, fuels, and soil from cleaning heavy equipment. The waste oil skimmed from the wash water in the two underground oil/water separators was transferred by gravity to the two underground waste oil tanks (SWMUs 122 and 123) via a subsurface pipe. Prior to their removal, the tops of the oil/water separators were slightly below grade and covered with gravel. The waste oil tanks (approximately 5 feet [ft] long by 5 ft in diameter) were below grade and also covered with gravel. According to the RCRA Facility Assessment (A.T. Kearney, 1988) the waste oil tanks were not equipped with automatic fill controls or level monitoring devices. However, waste oil was routinely removed to prevent overfills. Figure 2-3 illustrates the proximity of the waste oil tanks and the oil/water separators that historically collected the wash water and fluid wastes from the POL Washrack.

2.4 Previously Identified Contamination

Previous investigations have identified a number of contaminants that have impacted the soil and groundwater from SWMU 123 including:

- Volatile organic compounds (benzene, toluene, ethylbenzene, xylenes);
- Semi-volatile organic compounds [SVOCs] (naphthalene and phenol), and;
- Total Petroleum Hydrocarbons [TPH] (gasoline and diesel range organics)

The nature and extent of soil contamination resulting from the historical petroleum hydrocarbon releases at SWMU 123 (former Building 704 Waste Oil Tank) has been previously defined. In addition, PCS remedial actions (excavations) conducted in 1995 (by EBASCO), 1997 (by Foster Wheeler Environmental Corporation [FWENC]), and 2005 (by Bhate) removed all of the petroleum contaminated soil associated with SWMU 123. Five groundwater monitoring wells were previously installed at SWMU 123 (Bhate, 2004). Although the nature of the groundwater contamination at the site has been characterized, the horizontal extent of groundwater contamination was not defined. Furthermore, previous subsurface soil investigations were not conducted at SWMU 122 (former Building 702 Waste Oil Tank), therefore the nature and extent of soil contamination resulting from any potential releases from this waste oil tank (SWMU 122) was unknown.

2.5 Applicable Screening Criteria

Analytical data obtained from previous investigations and the data collected during this RFI will be evaluated against the applicable regulatory screening criteria that are specified in Appendix 4-F *Action Levels and Cleanup Levels* of the Holloman AFB Hazardous Waste Permit No. NM6572124422 (NMED, 2004b). Soil and groundwater

data evaluation will consist of a direct comparison to the applicable action level screening criteria. The applicable screening criteria are presented on the RFI Report analytical data summary tables for the analytes and media of concern. The following sections present the regulatory criteria that were used to evaluate the analytical data generated from this investigation.

2.5.1 Soils

2.5.1.1 VOCs, SVOCs, PCBs, and TAL Metals

The residential Soil Screening Levels (SSLs) established in NMED's *Technical Background Document for Development of Soil Screening Levels* (NMED, 2009) were used as the primary action levels for VOCs, SVOCs, polychlorinated biphenyls (PCBs), and target analyte list (TAL) metals. As per the HAFB Permit, Appendix 4-F V.1 (NMED, 2004b) if an NMED soil cleanup level has not been established for a particular chemical of potential concern (COPC) (e.g. 2-methylnapthalene) that constituent will be compared to the U.S. Environmental Protection Agency (USEPA) Region 6 *Human Health Medium Specific Screening Level* (HHMSSL). However, under an Interagency Agreement as an update of the USEPA Region 3 Risk Based Concentration (RBC) Table, Region 6 HHMSSL Table and the Region 9 Preliminary Remediation Goal (PRG) Table the Region 6 HHMSSLs have been combined into the Regional Screening Level (RSL) Table (USEPA, 2011). Additionally, all detected TAL metals were compared to their respective NMED approved HAFB Background Levels (NMED, 2011).

2.5.1.2 Total Petroleum Hydrocarbons

The action levels for TPH are established in the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006). Based on the analysis of the non-aqueous phase liquid (NAPL) sample collected from monitoring well SWMU123-MW1 in September 2004 (Bhate, 2004) the TPH screening guideline (residential direct exposure), for diesel #2/crankcase oil (880 milligrams per kilogram [mg/kg]) (Table 2b, NMED, 2006) was used as the action level for total TPH concentrations (combined gasoline range organics [GRO], diesel range organics [DRO], and oil range organics [ORO]).

2.5.2 Groundwater

2.5.2.1 VOCs, SVOCs, PCBs, and TAL Metals

There are two applicable standards for groundwater: New Mexico Water Quality Control Commission (NMWQCC) groundwater standards for contaminants (New Mexico Administrative Code [NMAC] 20.6.2.3103) and the USEPA's *National Priority Drinking Water Regulations* (USEPA, 2009) Maximum Contaminant Levels (MCLs). The lower of the two standards was used as action levels for VOCs, SVOCs, PCBs, and TAL metals in groundwater. Additionally, all detected TAL metals were compared to the NMED approved HAFB Background Levels (NMED, 2011).

2.5.2.2 Total Petroleum Hydrocarbons

The action levels for TPH are established in the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006). The NMED TPH screening guideline for diesel #2/crankcase oil (30.4 milligrams per liter [mg/L]) is the action level that was compared to total TPH concentrations (GRO, DRO, and ORO) detected in groundwater (Table 2b, NMED, 2006).

2.5.2.3 Total Dissolved Solids

There are two applicable standards for total dissolved solids (TDS) detected in groundwater: NMWQCC groundwater standards for contaminants (NMAC 20.6.2.3103) and the USEPA's *National Priority Drinking Water Regulations* Secondary MCLs (USEPA, 2009). The lower of the two standards was used as the action level for TDS.

2.6 Summary of Past Investigations and Remedial Actions

This section presents an overview of the previous investigations and remedial actions conducted at SWMUs 122 and 123. Since 1988 these SWMUs have been the subject of five environmental investigations and three PCS remedial (removal) actions. This section provides a historical overview and chronology of the previous investigations and removal actions that were conducted from 1988 through 2006 The chronology of previous investigations at SWMUs 122 and 123 is based on information provided in the reports referenced below. Analytical results summary tables, figures depicting sampling locations, and soil boring logs for these previous investigations and PCS removal actions are included in Appendix A of this report.

- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report*, 1988, A.T. Kearney, Inc and DPRA, Inc.
- *Phase I RCRA Facility Investigation Report, Table 2 Solid Waste Management Units,* 1994, Radian Corporation.
- *Closure Report for Remediation of POL – Contaminated Sites and Oil/Water Separator Removals, Holloman Air Force Base, New Mexico, July – November, 1995,* 1995, EBASCO Services, Inc., and Groundwater Technology Government Services, Inc.
- *Additional Characterization of POL-Contaminated Sites SWMU-3, SWMU-8, SWMU-36, SWMU-123 and OT-44, Holloman Air Force Base, New Mexico,* 1996, Groundwater Technology Government Services, Inc.
- *Final Closure Report Addendum for Phase II Remediation of POL-Contaminated Sites and Oil/Water Separator and Waste Oil Tank Removals, Holloman Air Force Base, New Mexico,* 1997, Foster Wheeler Environmental Corporation.
- *Results of Additional Soil Sampling for Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico,* 1999, Foster Wheeler Environmental Corporation.

- *Site Investigation Report SWMU 123, Holloman Air Force Base, New Mexico,* 2004, Bhate Environmental Associates, Inc.
- *Voluntary Corrective Measures Work Plan SWMU 123, Holloman Air Force Base, New Mexico,* 2005, Bhate Environmental Associates, Inc.

Each of these actions is described below.

2.6.1 RCRA Facility Assessment Preliminary Review Report

The RCRA Facility Assessment Report (A.T. Kearney, 1988) identified the Building 702 and Building 704 Waste Oil Tanks as SWMUs 122 and 123, respectively. These underground storage tanks were used to collect oil and wastewater from the Building 702 and Building 704 Oil/Water Separators (SWMUs 21 and 22) and were located along northern side of the Building 703 Washrack concrete pad (SWMU 89). The waste oil tanks were below grade and covered with gravel. The tanks were approximately 5 ft long and 5 ft in diameter and the depth to the base of the tanks was estimated at 6.5 ft below ground surface (bgs).

Wash water, waste oil, and fuels from the adjacent wash rack were routed to the oil/water separators for processing. The waste oil was skimmed from the water in the oil/water separators was transferred by gravity to the waste oil tanks via a subsurface pipe. The tanks were not equipped with automatic fill controls or level monitoring devices. Liquid level inspections were routinely conducted by HAFB personnel and the waste was removed on regular intervals and transferred to the Defense Reutilization Management Office (DRMO) Waste Storage Area. The RCRA Facility Assessment Report concluded that the potential for release to soil and groundwater was unknown since the age, materials of construction, and integrity of the tanks were not known. The two waste oil tanks (SWMUs 122 and 123) and the two oil/water separators (SWMUs 21 and 22) were subsequently removed when the Building 703 Washrack was renovated in the early 1990s. The descriptions of SWMUs 122 and 123 from the RCRA Facility Assessment Report (A.T. Kearney, 1988) are provided in Appendix A-1.

2.6.2 Phase I RCRA Facility Investigation Report

The initial Phase I RFI for SWMUs 123, 21, and 22 was performed by Radian in 1993 (Radian, 1994) to evaluate potential soil contamination at each of these sites. For the Phase I RFI, six soil borings were drilled within the potentially affected areas immediately surrounding the three SWMUs. Figure 4.4-1 in Appendix A-2 shows the locations of the six soil borings that were drilled at these SWMUs. Split spoon samples were collected every 2 ft to approximately 12 ft bgs. Each interval was logged and screened with an organic vapor meter (OVM). Boring logs with screening results are provided in Appendix A-2. Chemical analytical samples were collected from the interval at the base of the tanks (6.5 – 8.5 ft bgs), and approximately 4 ft below the base of the tanks (10.5 – 12.5 ft bgs). Twelve soil samples (two per borehole) were collected and analyzed at an offsite laboratory for VOCs, Total Recoverable Petroleum Hydrocarbons

(TRPH), and metals. Six samples were also analyzed for SVOCs (SWMU 123) because they were visibly contaminated.

The analytical results indicated that detected constituents for the six soil samples collected at SWMUs 21 and 22 (Building 702 and Building 704 Oil/Water Separators) were all below the current NMED Residential SSLs (NMED, 2009) and TPH Screening Guidelines (NMED, 2006). However, the analytical results from SWMU 123 soil samples indicated that two VOCs and TRPH were above the current NMED SSLs and the TPH Screening Guidelines. One sample from borehole 123-B01 had concentrations of two VOCs (benzene and ethylbenzene) and TRPH above NMED action levels. The maximum VOC concentrations were detected in sample 123-B01-02-01 collected from 8 – 10 ft bgs where benzene was reported at 54,000 micrograms per kilogram (µg/kg) and ethylbenzene at 229,000 µg/kg. The current NMED SSLs for benzene and ethylbenzene are 15.5 and 69.7 mg/kg, respectively.

TRPH was detected in three soil samples (two from 123-B01 and one from 123-B02) above the NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg. The highest TRPH concentration was also detected in sample 123-B01-02-01 at 4,510 mg/kg. All detected SVOCs from the six SWMU 123 soil samples were each below their respective NMED SSLs. Arsenic was detected slightly above the SSL (3.9 mg/kg) in soil sample 022-B02-01-01 at a concentration of 4.26 mg/kg. With the exception of lead and selenium all other metals were detected below their respective SSLs and the NMED approved HAFB Background Levels. Selenium was detected in nine soil samples with concentrations ranging from 0.38 mg/kg to 4.64 mg/kg and lead was detected in 12 soil samples with concentrations ranging from 0.265 mg/kg to 76.8 mg/kg. Although some of these detections are above the NMED approved HAFB background concentrations (1.4 mg/kg for selenium and 10.9 mg/kg for lead) they are well below the NMED SSLs for selenium (391 mg/kg) and lead (400 mg/kg). Tables 4.4-1, 4.4-2, and 4.4-3 in Appendix A-2 summarize the Phase I results from SWMUs 21, 22, and 123, respectively. Soil boring locations and analytical results from the Phase I RFI which exceeded current NMED SSLs, USEPA RSLs (USEPA, 2011), and/or NMED TPH screening guidelines are presented on Figure 2-4.

The Phase I RCRA Facility Investigation Report (Radian, 1994) recommended no further action for SWMUs 21 and 22 and remediation of TRPH-contaminated soil and removal of the waste oil tank for SWMU 123. Recommended approaches for remediation included in-situ bioremediation or excavation and disposal of the TRPH-contaminated soil.

2.6.3 Closure Report for Remediation of POL-Contaminated Sites

The initial SWMU 123 remedial (removal) action was conducted by EBASCO Services, Inc., and took place during August 1995 (Ebasco, 1995). The Building 704 Waste Oil Tank (SWMU 123) was not found in the excavation (16 ft by 12 ft by 7 ft deep), and it was believed that the tank had been previously removed when the Building 703 POL washrack was renovated in the early 1990s. Fifty cubic yards (67.5 tons) of TRPH-

contaminated soil was removed at this time. Five native soil confirmation samples were collected from the excavation corners (SWMU-123-1-7 through SWMU-123-4-7), and one from the center of the excavation (SWMU-123-5-7). The sample locations are illustrated on Figure 13-1 in Appendix A-3 of this Report.

TRPH concentrations above the current TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg were detected in two of the five samples. TRPH was detected in SWMU-123-1-7 (southeast corner) and SWMU-123-2-7 (southwest corner) at 7,400 and 4,600 mg/kg respectively. The laboratory analytical results also indicated detections of all four BTEX constituents (benzene, toluene, ethylbenzene, and xylene) in samples SWMU-123-1-7 and SWMU-123-2-7. Benzene and ethylbenzene were detected above their current NMED SSLs of 15.5 and 69.7 mg/kg (NMED, 2009), in these two soil samples. The maximum concentrations of benzene (39 mg/kg) and ethylbenzene (81 mg/kg) were detected in samples SWMU-123-1-7 and SWMU-123-2-7, respectively. No BTEX compounds were detected above the laboratory quantitation limits in the other three samples. The analytical results are summarized in Table 13-2 in Appendix A-3 of this Report.

The excavated contaminated soil was stockpiled and sampled for offsite disposal. Based on the analytical results from the stockpile samples (see Table 13-3 in Appendix A-3of this Report) the 50-cubic yards of contaminated soil was transported offsite as non-hazardous waste to the Rhino Environmental Services, Inc., landfarm facility located north of Newman, New Mexico for disposal and treatment. Copies of the waste manifests and weight certificates/receipts are also included in Appendix A-3 of this Report.

Due to the elevated TRPH detected in two excavation sidewall samples, the Closure Report (EBASCO, 1995) recommended further delineation and remediation of the remaining PCS (detected in samples SWMU-123-1-7 and SWMU-123-2-7). Additional investigation activities were planned for the site in 1996.

2.6.4 Additional Characterization of POL Contaminated Sites

Additional characterization to delineate the extent of subsurface soil in excess of 1,000 mg/kg (the historical HAFB TPH action level) at SWMU 123 was conducted by Groundwater Technology Government Services, Inc. (GTI), in February 1996. Three soil borings (SWMU-123-DP-1, SWMU-123-DP-3, and SWMU-123-DP-4) were drilled and sampled at SWMU 123 (see Figure 5 in Appendix A-4 of this Report) during this sampling event. Each borehole was advanced to 14 ft bgs and sampled continuously and field screened for VOCs with a photoionization detector (PID). Two samples from each boring were analyzed for TRPH, TPH-GRO, TPH-DRO, and BTEX constituents. Boring logs with PID screening results are also provided in Appendix A-4 of this Report.

The analytical results are summarized in Table 5 in Appendix A-4 of this Report. TRPH, TPH-GRO, TPH-DRO, and BTEX were not detected in the samples collected from the borehole located north (SWMU-123-DP-3) and west (SWMU-123-DP-1) of the former

Building 704 Waste Oil Tank (SWMU 123). However, the soil sample collected from 9 to 10 ft bgs in boring SWMU-123-DP-4 located east of the Washrack did contain TPH-GRO at 202 mg/kg, TPH-DRO at 19 mg/kg, TRPH at 114 mg/kg, ethylbenzene at 1.3 mg/kg, and xylenes at 2.09 mg/kg. Each of these detections (including combined TRPH concentrations) was well below their respective NMED and USEPA action levels. The GTI letter report concluded that the results from boring DP-4 indicated that petroleum hydrocarbon contamination was present beneath the POL Washrack concrete slab.

2.6.5 Final Closure Report Addendum for Phase II Remediation of POL Contaminated Sites

Two closure samples (SWMU-123-1-7 and SWMU-123-2-7) from the initial PCS removal action at SWMU 123 conducted by EBASCO Services in 1995 exceeded the applicable TRPH screening criteria along the southern side of the excavation. Based on an agreement between NMED and HAFB, soil with TRPH concentrations exceeding 1,000 mg/kg that extended under large structures would not require remediation if this soil posed no potential health risk. As a result, additional excavation activities were planned to remove all TRPH-contaminated soil exceeding 1,000 mg/kg which did not extend under the concrete POL Washrack pad.

In March 1997, FWENC resumed excavation activities and removed an additional 132.5 cubic yards (178.9 tons) of PCS from around the initial SWMU 123 excavation (FWENC, 1997). Representative samples of in-place and stockpiled soil were also collected during the second remedial action. The five excavation sidewall and floor samples were analyzed for TRPH, VOCs, SVOCs, and metals. Table 5-1 in Appendix A-5 of this Report summarizes the analytical results for the site closure and stockpile samples and the excavation confirmation sample locations are presented in Figure 5-1 in Appendix A-5. The analytical results for four of the samples did not exceed current NMED SSLs (NMED, 2009). However, the sample collected immediately adjacent to the POL Washrack (SWMU-123-01-09) had a TRPH concentration of 4,100 mg/kg which is above the current NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg (NMED, 2006). In addition, benzene (33 mg/kg) and ethylbenzene (320 mg/kg) were also detected above their current SSLs (15.5 and 69.7 mg/kg respectively) in sidewall sample SWMU-123-01-09.

The excavated contaminated soil was stockpiled and sampled for offsite disposal. Based on the analytical results from the stockpile samples (shown in Table 5-1 in Appendix A-5 of this Report) the 132.5-cubic yards of PCS from the second excavation was transported offsite as non-hazardous waste to the Rhino Environmental Services, Inc., landfarm facility located north of Newman, New Mexico for disposal and treatment. Copies of the waste manifests and weight certificates/receipts are also included in Appendix A-5 of this Report.

Due to the closure sample adjacent to the POL Washrack (SWMU-123-01-09) the Phase II Closure Report (FWENC, 1997) recommended a conditional NFA. The

condition of the NFA was the remediation of vadose zone soil extending under the POL Washrack over 1,000 mg/kg TRPH and 25 mg/kg benzene.

2.6.6 Additional Soil Sampling for Remediation of POL Contaminated SWMU 123

The NMED requested further investigation of soil contamination underneath the concrete washrack pad before considering the site for NFA. The primary purpose of the additional investigation was to determine the extent of TRPH contamination detected in sample SMMU123-01-09 (which was 4,100 mg/kg) during the SWMU Phase II Closure investigation (FWENC, 1997). Therefore in January 1999, FWENC cored the concrete pad and sampled six hand auger boreholes (SWMU-SB-A, -B, -C, -E, -I, and -J). Soil boring locations are shown on Figure 4-1 in Appendix A-6 of this Report. Initially nine soil borings were planned, however three boreholes (SWMU-SB-D, -F, and -H) could not be sampled as they were located over thick concrete footers in the concrete pad. A total of 13 soil samples collected from 2 to 9 ft bgs were sent to an offsite laboratory and analyzed for TRPH and BTEX.

Six samples had concentrations of TRPH above the NMED TPH screening guideline for diesel #2/crankcase oil (880 mg/kg) (NMED, 2006) with concentrations ranging from 1,825 mg/kg to 7,400 mg/kg. One soil sample (SWMU123-SB-C-9) had a concentration of ethylbenzene (110 mg/kg) which is above the NMED SSL (69.7 mg/kg). All other detections of benzene, toluene, ethylbenzene, and total xylene were below their current NMED SSLs (NMED, 2009). Table 6-1 in Appendix A-6 of this Report presents a summary of the analytical results. Soil boring locations and analytical results from the SWMU 123 Additional Soil Sampling performed by FWENC in 1999 which exceeded current NMED SSLs, USEPA RSLs (USEPA, 2011), and/or NMED TPH screening guidelines are presented on Figure 2-5.

The Letter Report *Results of Additional Soil Sampling for the Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico* (FWENC, 1999) concluded that the remaining TRPH-contaminated soil at the site was adequately covered by an 8-inch thick reinforced concrete pad (washrack) which served as an effective capping mechanism for the TRPH contaminated soil. After reviewing the referenced Letter Report the NMED issued a Notice of Deficiency (NOD) to HAFB on August 17, 2001, requiring additional information prior to making a final determination for NFA at SWMU 123. Additional information required by NMED included a valid risk assessment, additional analytical soil sampling (TPH-GRO, -DRO, -ORO, RCRA metals, and PCBs) and the installation and sampling of groundwater monitoring wells. The NMED NOD letter (HWB-HAFB-01-007) is included in Attachment A of this Report.

2.6.7 SWMU 123 Site Investigation

In response to the NMED NOD (HWB-HAFB-01-007) dated August 17, 2001, Bhate Environmental Associates, Inc. (Bhate) was subcontracted to address the NMED recommendations outlined in the NOD letter. The primary objective of this investigation

was to determine the vertical and lateral extent of PCS and to install a monitoring well network to evaluate groundwater quality. The field work for the SWMU 123 Site Investigation was conducted in accordance with the *Work Pan for Additional Soil Borings and Monitoring Well Installations Solid Waste Management Unit 123* (Bhate, 2003a) which was approved by the NMED. The NMED Notice of Approval letter (HWB-HAFB-03-006) for this Work Plan dated February 10, 2004, is also included in Attachment A of this report. The following information was obtained from the *Site Investigation Report SWMU 123, Holloman Air Force Base, New Mexico* (Bhate, 2004).

A total of five solid stem auger soil borings (SB-1 through SB-5) and nine direct push technology (DPT) locations (DP-01 through DP-09) were advanced at SWMU 123 in April 2004. The five soil borings were converted into 2-inch flush mount groundwater monitoring wells (MW-1 through MW-5). The locations of the DPT soil borings and the solid stem auger soil borings converted into monitoring wells are illustrated on Figure 4-1 in Appendix A-7 of this Report. A total of 31 soil samples from 14 soil borings (two per borehole including three duplicates) were submitted to an offsite laboratory for analysis. Six groundwater samples (including one duplicate) and a round of water levels were collected from the five monitoring wells. Additionally four wells (MW-2 through MW-5) were resampled on September 28, 2004, to determine if site conditions had changed after the initial sampling event performed in April. Drilling logs and monitoring well construction diagrams for this investigation are included in Appendix A-7 of this Report.

Table 5-1 in Appendix A-7 of this Report presents the April 2004 groundwater elevation data collected from the five monitoring wells. A potentiometric surface map was prepared using the data from Table 5-1 (see Figure 5-1 in Appendix A-7 of this Report). Groundwater flows to the southeast towards Dillard's Draw with a relatively flat hydraulic gradient (0.01 feet per foot [ft/ft]). During routine well gauging activities performed on September 14, 2004, approximately 1.41 ft of free phase liquid was measured in monitoring well MW-1. The NMED Hazardous Waste Bureau (HWB) was immediately notified and a copy of the Memorandum *Notification of Free Phase Liquid at Solid Waste Management Unit (SWMU) 123 - Bldg 704 Waste Oil Tank Site* is included in Attachment A of this report. A sample of the NAPL was collected on September 22, 2004, and the analytical results indicated that the NAPL contained a mixture of gasoline, jet fuel (or naphtha), and a mid-distillate (kerosene or diesel #1) (see letter from Zymax Forensics in Appendix A-7 of this report).

From September 22 to 27, 2004, periodic bailing of MW-1 reduced the thickness of free product to 0.14 ft. After the initial free product removal response, the well was bailed on a weekly basis to remove NAPL. A summary of the free product measurements made during the removal actions is presented in Table 5-2 in Appendix A-7 of this Report.

2.6.7.1 Groundwater Sampling Results

Groundwater samples were analyzed for TDS, VOCs, SVOCs, TPH (-GRO, -DRO, -ORO), and RCRA metals. TDS concentrations (shown in Table 5-3 of Appendix A-7 of this Report) ranged from 3,010 mg/L in MW-1 to a high of 6,050 mg/L in MW-5. These

abnormally low TDS values are likely attributable to localized anthropogenic impacts such as leakage from a water supply line and runoff from the POL Washrack.

Table 5-4 in Appendix A-7 of this Report presents a summary of the analytical results (VOCs, SVOCs, TPH, and RCRA metals) for both rounds (May and September 2004) of groundwater sampling data. Due to the presence of free product, the May 2004 groundwater sample from MW-1 contained elevated concentrations of benzene (2,520 micrograms per liter [µg/L]), ethylbenzene (1,670 µg/L), toluene (7,490 µg/L), and total xylenes (2,920 µg/L) above the NMWQCC standards (NMAC 20.6.2.3103). The concentrations of benzene, ethylbenzene, and toluene were also above their respective current USEPA MCLs (USEPA, 2009). In addition to BTEX, MW-1 also contained concentrations of naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene above their respective USEPA Region 6 HHMSSLs for tap water (USEPA, 1996) (Note: As presented in Table 5-4 (Appendix A-7) the comparison of groundwater data to the 1996 Region 6 tap water screening levels was a unique comparison that was only presented in *Site Investigation Report SWMU 123* [Bhate, 2004]. Comparison of groundwater data with the Region 6 screening levels for tap water is not a requirement within Appendix 4-F *Action Levels and Cleanup Levels* of the HAFB Hazardous Waste Facility Permit No NM6572124422 [NMED, 2004b]).

With the exception of benzene (1,080 µg/L) detected in monitoring well MW-2, all other VOCs were below their respective NMWQCC and USEPA MCL regulations during the first groundwater sampling event. The NMWQCC and USEPA MCL drinking water standards for benzene are 10 µg/L and 5 µg/L, respectively. Other VOCs detected in the downgradient well MW-2 during the first round included ethylbenzene (337 µg/L) and total xylenes (136 µg/L). The MW-2 groundwater sample collected during the second round had higher concentrations of benzene (1,340 µg/L), ethylbenzene (416 µg/L), and toluene (10J µg/L); while total xylenes (125 µg/L) slightly decreased. VOCs were not detected in monitoring well MW-3 during the first round, however low concentrations of benzene (3.2 µg/L), and ethylbenzene (21 µg/L) were detected in the sample collected during the second round. VOCs were not detected in upgradient monitoring wells MW-4 or MW-5 during either sampling event. An isocontour map depicting the distribution of BTEX compounds in the groundwater is shown on Figure 5-3 in Appendix A-7 of this Report.

The May 2004 groundwater sample collected from MW-1 was the only groundwater sample to have detectable concentrations of SVOCs. Phenol (34 µg/L) was the only SVOC detected above the NMWQCC standard of 5 µg/L. In addition, naphthalene was detected (76 µg/L) above the USEPA Region 6 action level of 6 µg/L. SVOCs were not detected in groundwater samples collected from monitoring wells MW-2 through MW-5 during either sampling event.

Detectable amounts of metals included arsenic, barium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, vanadium, and zinc. Arsenic and selenium were the only metals detected above the EPA MCL standards of 0.01 mg/L and 0.05 mg/L respectively, during the May 2004 sampling event. Arsenic was detected in monitoring

wells MW-1 through MW-5 with concentrations ranging from 0.014 mg/L to 0.078 mg/L. Selenium was detected in monitoring wells MW-2 through MW-5 with concentrations ranging from 0.161 mg/L (MW-3) to 0.261 mg/L (MW-5). Arsenic was also detected above the MCL in four wells (MW-2 through MW-5) during the September 2004 sampling event with concentrations ranging from 0.017 mg/L to 0.068 mg/L. However, selenium was not detected in any of the groundwater samples collected during the second round. The metal samples were not filtered in the field (or laboratory) which may explain the variation of the selenium data. In addition, several metals (barium, chromium, copper, nickel, and zinc) were detected above the NMED approved unfiltered (total) background levels (Table 2, NMED, 2011) during both sampling events. Groundwater sampling locations and analytical results from the sampling performed by Bhate in May and September of 2004 which exceeded current NMWQCC standards, USEPA MCLs, or the 1996 USEPA Region 6 HHMSSLs (for tap water) are presented on Figure 2-6.

2.6.7.2 Soil Sampling Results

Soil samples were analyzed for VOCs, SVOCs, TPH (-GRO, -DRO, -ORO), RCRA metals, and PCBs. Table 5-5 in Appendix A-7 presents the analytical results for soil samples collected from the boreholes converted into monitoring wells and Table 5-6 in Appendix A-7 presents the analytical results for the DPT soil sampling locations.

The two samples (SB01-10 and SB01-12) collected from soil boring SB01 exhibited concentrations of benzene and ethylbenzene which exceeded the current NMED residential SSL (NMED, 2009). The maximum concentrations of benzene (26.9 mg/kg) and ethylbenzene (98.1 mg/kg) were detected in sample SB01-10 (10 to 11 ft bgs). The current NMED SSLs for benzene and ethylbenzene are 15.5 mg/kg and 69.6 mg/kg respectively. All other detected VOCs were below their respective SSLs and RSLs (USEPA, 2011). Three SVOCs were detected in the soil samples: 2-methylnaphthalene, naphthalene, and diethylphthalate. None of the SVOCs exceeded their applicable NMED SSLs or RSLs. Seven soil sampling locations contained detectable TPH concentrations: SB01, DP02, DP03, DP04, DP05, DP06, and DP08. Of these locations, the detectable concentrations for total TPH ranged from a low of 20.5 mg/kg to a high of 3,940 mg/kg. Locations SB01 and DP04 were the only boreholes which had total TPH (GRO, DRO, and ORO) concentrations that exceeded the current NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg (NMED, 2006).

Each of the soil boring and DPT locations contained a detection of at least one RCRA metal. With the exception of four detections of arsenic, all of the metals were detected below their respective NMED SSLs and USEPA RSLs. Arsenic was detected in four samples collected from soil borings DP06 and DP09 above the current NMED SSL (3.9 mg/kg). The arsenic concentrations in these samples ranged from 4.27 to 4.95 mg/kg. In addition, selenium was the only metal detected above the NMED approved background level (NMED, 2011) in eight samples.

Soil samples DP01-4 and DP01-11, collected from DPT borehole DP01 were also analyzed for PCBs. This location was adjacent to the excavation boundary of the previously removed Building 704 waste oil tank (SWMU 123). PCBs (Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260) were not detected in either sample. Soil boring locations and analytical results from the SWMU 123 Site Investigation performed by Bhate in 2004 which exceeded current NMED SSLs, USEPA RSLs, and/or NMED TPH screening guidelines are presented on Figure 2-7.

2.6.8 Voluntary Corrective Measures SWMU 123

As previously discussed in Section 2.6.6, FWENC cored through the concrete pad (SWMU 123 washrack) and sampled six hand auger boreholes in January 1999. The six soil samples collected from these boreholes had TPRH concentrations above the NMED TPH screening guideline of diesel #2/crankcase oil (880 mg/kg). In order to obtain site closure from the NMED, Bhate was retained by the USACE Omaha District to excavate the PCS which remained under the SWMU 123 concrete washrack pad. This section describes the PCS excavation, site restoration, and soil disposal activities which were conducted at SWMU 123 for the VCM from September 27, 2005, through February 7, 2006. This section also describes the confirmation soil sampling conducted along the sidewalls and bottom of the VCM excavation along with the results of the stockpile sampling.

PCS excavation and removal activities at SWMU 123 were conducted by Bhate between October 2005 and January 2006. The NMED HWB provided verbal approval of the *Voluntary Corrective Measures Work Plan SWMU 123, Holloman Air Force Base, New Mexico* (Bhate, 2005) on August 30, 2005. The telephone record of this phone call is included in Attachment A. The primary objective of the additional remedial action was to remove PCS to the south and east of the two prior removal actions conducted in 1995 and 1997. Complicating this excavation was the fact that the majority of the soil to be removed was beneath the reinforced concrete pad of the POL washrack and the POL washrack structure.

To determine the effectiveness of the VCM Remedial Action, confirmation soil samples were collected from the sidewalls and bottom of the excavation. Sidewall samples were collected at a frequency of 1 sample per 20 linear feet of sidewall. Soil samples were collected from the stockpiled soil (1 per 500 cubic yards) to determine the appropriate classification of the soil. These soil samples were submitted to Accutest Southeast in Orlando, Florida for offsite laboratory analysis.

Summary tables presenting the results of the excavation confirmation and stockpile soil sampling are presented in Tables 1 and 2, respectively in Appendix A-8 of this Report. The sample depth (feet) and location (sidewall or excavation floor bottom) for each sample is included as the last digit in the sample identification number. Excavation confirmation locations for the SWMU 123 VCM are shown on Figure 1 (Appendix A-8). Excavation confirmation samples and stockpile samples were analyzed by the offsite laboratory for the following:

- VOCs by USEPA Method 8260B
- SVOCs by USEPA Method 8270C
- TPH-DRO, -GRO, and -ORO by USEPA Method 8015/8015M

The VOC and SVOC results of the laboratory analyses were reviewed and compared to the current NMED SSLs (NMED, 2009) and USEPA RSLs (USEPA, 2011). TPH concentrations were compared to the current NMED TPH screening guidelines (NMED, 2006) for diesel #2/crankcase oil (880 mg/kg). A summary of the excavation, confirmation, and stockpile soil sampling activities which were conducted during the SWMU 123 VCM are presented in Sections 2.6.8.1 and 2.6.8.2. Section 2.6.8.3 describes the transportation and treatment of impacted/contaminated soil and Section 2.6.8.4 describes site restoration activities.

The excavation boundary of the 2005/2006 VCM PCS removal action is illustrated on Figure 1 in Appendix A-8 of this Report. This figure also presents the locations of confirmation soil samples which were collected from the sidewalls and the excavation bottom. The complete Accutest laboratory analytical data packages for the confirmation and stockpile soil sampling are also included in Appendix A-8 of this Report.

2.6.8.1 Excavation Confirmation Sampling Results

A total of 23 confirmation soil samples (including one duplicate) were taken from both the bottom of the excavation and from excavation sidewalls. The 19 sidewall samples (SWMU123-SW01 through SWMU123-SW16) were collected at 9 bgs along the perimeter of the excavation. The 4 bottom samples (SWMU123-BOTTOM1 through SWMU123-BOTTOM4) were collected at 13 feet bgs in the northern and central area of the excavation. The sample locations and excavation boundaries are presented on Figure 1 in Appendix A-8 of this Report.

Sidewall and bottom samples collected from the excavation all had VOC, SVOC, and TPH concentrations below the applicable screening criteria, indicating that all of the PCS above action levels had been removed. A summary table of the analytical data for the sidewall and bottom samples collected from October 2005 through January 2006 is presented in Table 1 in Appendix A-8 of this Report.

2.6.8.2 Soil Stockpile Sampling Results

Four samples were collected from stockpiled soil suspected of containing PCS. Stockpile samples were collected at a frequency of approximately 1 sample for every 500 cubic yards of stockpiled soil. All stockpile soil samples were analyzed for TPH, VOCs, and SVOCs. Stockpile samples SWMU123-PCS6-4,11 and SWMU123-PCS15 both exceeded the NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg (NMED, 2006). All VOC and SVOC concentrations were below the current NMED SSLs. Stockpiled soil which exceeded the NMED TPH screening guideline was transported to the HAFB FT-31 Landfarm for treatment. A summary table of the

analytical data for the stockpile soil samples collected in October and December 2005 is presented in Table 2 in Appendix A-8 of this Report.

2.6.8.3 PCS Transportation and Treatment

The approximate area of the final SWMU 123 excavation was 3,000 square feet (see Figure 1 in Appendix A-8 of this Report) with an average depth of 13.5 ft bgs. Approximately 1,770 cubic yards of soil was excavated, stockpiled, and sampled. Laboratory analysis determined that approximately 1,040 cubic yards of soil contained TPH at concentrations exceeding the NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg. Prior to excavating the remaining PCS, the concrete washrack pad was removed and transported to the HAFB Reuse Yard. The excavated PCS (1,040 cubic yards) was transported to the permitted HAFB FT-31 Landfarm for treatment and the clean overburden was used as backfill. The truck logs for the clean overburden and the PCS transported to the HAFB FT-31 Landfarm for treatment are also included in Appendix A-8.

2.6.8.4 Site Restoration

Fill consisting of clean overburden and treated soil transported from the HAFB FT-31 landfarm was used as backfill for the excavation prior to the replacement of the reinforced concrete washrack pad. Backfill material in areas below 6 feet bgs was placed in 24-inch lifts and compacted to at least 18 inches with a hydraulic plate compactor. From a depth of 6 feet bgs to approximately 3 feet bgs the excavation was backfilled in 9 inch lifts with compaction to at least 6 inches. The remaining fill required to reach the bottom of the existing foundation was placed as controlled low-strength material (CLSM) more commonly referred to as flowable fill. Upon completion of backfill activities a reinforced concrete pad was placed above flowable fill restoring the site to original condition.

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3 ENVIRONMENTAL SETTING

The following subsections present the environmental setting. This information was obtained primarily from the *Draft Final Remedial Investigation (RI) Report, Investigation, Study and Recommendation for 29 Waste Sites* (Radian, 1992), unless cited otherwise.

3.1 Physiography and Topography

HAFB 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 within the Tularosa Basin, which is part of a 170 mile long structural depression. The boarding 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. At its widest point, the basin is about 60 miles east to west and stretches approximately 150 miles north to south (Figure 2-1).

The Tularosa Basin is a closed basin that contains all of the surface flow within its boundaries. Surface runoff from the surrounding mountains has deposited alluvial fans on the interior of the plain. Around the base, the ground surface is undulating comprised of alluvial fan deposits, eolian dunes, and flat bottomed playas (pan shaped depressions carved by wind erosion). To the west of the Base lie the gypsum sand dune fields of the White Sands National Monument. A topographic map of the base is provided as Figure 3-1.

3.2 Surface Water and Hydrology

Within the boundaries of the Base, surface water runoff is controlled by several arroyos which trend to the southwest (Figure 3-2). The nearest inflow of surface waters to the Base comes from the Lost River, located in the north-central region of the Base. HAFB is dissected by several other southwest trending arroyos that control the surface drainage. Hay Draw arroyo is located in the far north. Malone and Ritas 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 north-south trending area east of Tularosa and Alamogordo and 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).

3.3 Regional Geology

The Tularosa Basin is the easternmost extension of the Basin and Range Province of the western United States. The Basin and Range was created by Cenozoic extensional (normal) faulting of Precambrian- through Tertiary-age sedimentary and igneous rocks. The basin is a graben, or downthrown block, bounded by the upthrown fault blocks of the San Andres and Sacramento Mountains.

During the Permian period of the Paleozoic era (approximately 270 million years ago), southern New Mexico was covered by a shallow sea. Limestone and sandstone were deposited, forming thick sedimentary units. Toward the end of the Mesozoic era (approximately 70 million years ago), the major mountain building activities which formed the Rocky Mountains took place. During these events, southern New Mexico emerged from the ocean as the earth's crust upwarped gently in this region. During the Cenozoic era (beginning approximately 70 million years ago), basin and range formation was initiated in what is now the southwestern United States. Approximately 10 million years ago, Cenozoic faulting formed the graben structure known as the Tularosa Basin. During this process, arched portions of rock collapsed between large-scale, north-south trending faults. The Tularosa Basin is a central downthrown area, bounded on the east and west by fault block mountains. Bedded Permian strata can be seen along the faces of the Sacramento and San Andres Mountains. Permian limestones also occur west of HAFB in a low bedrock outcrop near Hurtz Spring. 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 limestone, dolomite, gravel, and other matter continue to flow into the basin. A generalized cross-section of the Tularosa Basin is shown in Figure 3-3.

As the Tularosa Basin is a bolson, which is a basin with no surface drainage outlet, sediments carried by surface water into a closed basin are bolson deposits. The overlying alluvium generally consists of unconsolidated gravels, sands, and clays. The bolson sediments within the Tularosa Basin are derived from the adjacent ranges as erosional deposits of limestone, dolomite, and gypsum. Coarser material is deposited at the base of the mountains while finer material is carrier to the basin's interior. The bolson fill deposits thin out from Alamogordo to less than 100 feet near Hurtz Spring. Bolson fill deposits are 8,000 feet thick or more in the central portion of the Tularosa Basin.

Near-surface geologic conditions at HAFB have been established during this and numerous other Environmental Restoration Program (ERP) investigations. The near-surface bolson deposits at HAFB consist of sediments that are alluvial, eolian, and

lacustrine in origin. 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 because the wind simultaneously reworks alluvial fan sediments and deposits gypsum sands resulting in an intermingling of the two sediment types. The playa, or lacustrine deposits, consist of medium to high plastic clay containing gypsum crystals and are contiguous with the alluvial fan and eolian deposits throughout HAFB. There has been the identification of stiff caliche layers, varying in thickness, at different areas of the Base. A generalized near surface cross-section for HAFB is shown in Figure 3-4.

3.4 Soils

The United States Department of Agriculture (USDA) Soil Conservation Service has identified two soil associations in the vicinity of HAFB; the Holloman-Gypsum Land-Yesum complex, and the Mead silty clay loam. The permeability of these horizons ranges from $4x10^{-4}$ to 1 $x10^{-3}$ centimeters per second. The distribution of soils in the vicinity of HAFB is depicted on Figure 3-5 (USDA, 1981).

The Holloman-Gypsum land-Yesum complex, 0 to 5 percent slopes soil consists of large areas of shallow and deep, well drained soils and areas of exposed gypsum. The Holloman soil makes up about 35 percent of the complex. Typically, the surface layer is light brown very fine sandy loam about 3 inches thick. The upper 13 inches of the substratum is pink very fine sandy loam that is very high in gypsum. Below that, the substratum is white gypsum to a depth of more than 60 inches. This soil is calcareous and mildly alkaline to moderately alkaline throughout. Permeability is moderate, and available water capacity is very low.

Gypsum land makes up about 30 percent of the Holloman-Gypsum land-Yesum complex, 0 to 5 percent slopes. Typically, less than 1 inch of very fine sandy loam overlies soft to hard, white gypsum. The deep Yesum very fine sandy loam makes up about 20 percent of the complex. Typically, the surface layer is light brown very fine sandy loam about 3 inches thick. The upper 9 inches of the substratum is light brown fine sandy loam that is very high in gypsum. Below that, the substratum is pink very fine sandy loam to a depth of more than 60 inches. The soil is calcareous throughout and is mildly alkaline. Permeability is moderate, and available water capacity is moderate. Many fine gypsum crystals are found throughout the profile.

The soil type located across the main drainage area for the installation is Mead silty clay loam, 0 to 1 percent slopes. This deep, poorly drained, nearly level soil is on outer fringes of alluvial fans. This soil formed in fine textured alluvium over lacustrine lake sediment. It is very high in salt content because of periodic flooding and poor drainage. Slopes are smooth and concave. Typically, the surface layer is reddish brown silty clay loam and clay loam about 5 inches thick. The substratum, to a depth of 48 inches, is light reddish brown clay that has a high content of salts. Below that, the substratum is lacustrine material of variable texture and color to a depth of more than 60 inches. Included with this soil are areas of Holloman soils and Gypsum land along the margins

of the unit of steep, short gully sides and knolls. These inclusions make up about 15 percent of the map unit for this soil type. Individual areas are generally smaller than 10 acres. This soil is moderately calcareous throughout and is moderately to strongly alkaline. It has a layer of salt that is more soluble than gypsum. Permeability is very slow, and available water capacity is low.

3.5 SWMU 122 and 123 Site Geology

Site specific geologic information was obtained from the compilation of lithologic data from the 16 soil borings drilled during this RFI. Continuous lithologic logging was conducted for each borehole drilled in accordance with the Unified Soil Classification System. The borehole logs from this investigation are included in Appendix B of this Report.

The stratigraphy underlying SWMU 122 and 123 consists primarily of interbedded, fine-grained silts, clays, and sands. From grade to approximately 13 ft bgs, soils are predominantly moist silty sands and silty clays. Saturated soils are generally encountered between 10 and 12 ft bgs. A roughly 2 ft thick cemented sand/silty-sand, caliche, layer is present throughout the majority of the site from approximately 13 to 15 ft bgs. A silty clay layer with coarse gypsum crystal inclusions was present in most boreholes from approximately 15 to 18 ft bgs. The groundwater table occurs at 9.5 to 11.5 ft bgs.

3.6 Regional Hydrogeology

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 ft bgs. Flow for the Base is generally towards the southwest with localized influences from the variations in the topography of the Base. In the northern and western portions of the Base, groundwater flows more to the west toward the Ritas Draw, Malone Draw, and Lost River drainages. Groundwater flow is affected by local topography in areas immediately adjacent to arroyos, where groundwater flows directly toward the drainages regardless of the regional flow pattern.

Figure 3-6 shows the basewide groundwater flow direction obtained from water level measurements collected during the 2002 Long Term Monitoring groundwater sampling event. 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, 1992). The majority (over 70 %) of the ERP Sites/Solid Waste Management Units located

across HAFB, have groundwater monitoring wells containing water with an average TDS concentration greater than 10,000 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 NMWQCC limit as potable water and thus, the groundwater beneath HAFB has been designated as unfit for human consumption. Additionally, based on the USEPA document, *Final Draft Guidelines for Ground-water Classification Under the EPA Ground-water Protection Strategy* (USEPA, 1986), the groundwater can be classified as Class III B. Class III B groundwater is characterized by having a TDS concentration greater than 10,000 mg/L, and a low degree of interconnection to adjacent surface waters or groundwater of a higher class. Because the Tularosa is a closed basin, its groundwater does not discharge or connect to any adjacent aquifer. Adjacent surface waters include groundwater surfacing in Lake Holloman. TDS in Lake Holloman ranges from a winter low of 12,400 mg/L to a summer high of 17,000 mg/L (Cole, et al., 1981); therefore, groundwater at Holloman AFB is not interconnected with surface water of a higher class.

There are no potable water wells on HAFB. Potable water for the Base (Boles, Douglas, and San Andres well fields) and the city of Alamogordo is derived from the foot of the nearby Sacramento Mountains, just south of Alamogordo. According to a groundwater well inventory (Table 3-1) prepared by the New Mexico Office of the State Engineer, there are approximately 25 domestic, 15 commercial, 7 irrigation, and 3 livestock wells located within a 4-mile radius of Holloman AFB (New Mexico Water Rights Reporting System [NMWRRS] database, 2009). As shown on Figure 3-7, these wells are located along HAFB's northern and eastern boundaries (upgradient and cross gradient respectively).

3.7 SWMU 122 and 123 Site Hydrogeology

To determine the groundwater flow direction, and horizontal hydraulic gradient, groundwater elevations were measured at 15 monitoring wells located throughout the SWMU 122 and 123 monitoring well network on July 13, 2009. Groundwater onsite primarily occurs in sands and silty sands in a shallow unconfined aquifer approximately 9.5 to 11.5 ft bgs. Static water elevations at the site ranged from 4,079.42 ft amsl at SWMU122-MW01 to 4,077.27 ft amsl at SWMU122-MW12. Table 3-2 presents the groundwater elevation data collected during this RFI.

A potentiometric surface map of SWMU 122 and 123 was developed using the data collected in July 2009 (Figure 3-8). The SWMU 122 and 123 groundwater flow direction is generally toward the south-southeast, which is different than the typical south-southwest Basewide flow direction at HAFB. The close proximity of SWMUs 122 and 123 to the Dillard Draw Arroyo, located approximately 1,000 ft due east, has influenced groundwater flow direction toward this surface drainage feature.

The horizontal hydraulic gradient was calculated along the groundwater flow lines within

the SWMU 122 and 123 monitoring well network. The horizontal gradient for SWMU 122 and 123 is approximately 0.004 ft/ft and was calculated using water levels obtained from monitoring wells SWMU122-MW01 (upgradient) and SWMU122-MW12 (downgradient). Although slug tests (slug test data is used to calculate hydraulic conductivity) were not performed during the RFI investigation, the hydraulic conductivity at nearby ERP sites SD-08 and OT-14 is 3.48 x 10^{-3} feet/minute, and 3.47 x 10^{-3} feet/minute, respectively (Radian, 1992). Based on the data from slug tests conducted at these sites, the groundwater velocity at SWMUs 122 and 123 is estimated to be approximately 19 feet/year.

3.8 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 are in the 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”. The annual rainfall for Alamogordo is approximately 12 inches per year[1]. Much of the precipitation falls during the mid-summer monsoonal period (July and August) as brief, yet frequent, intense thunderstorms culminating to 30 to 40% of the annual total rainfall.

3.9 Current and Future Land Use

The land surrounding HAFB consists of residential areas to the east and northeast (City of Alamogordo), rangeland to the south, the White Sands National Monument to the west, and areas where military activities are conducted to the north. The desert terrain of the area immediately surrounding HAFB has limited development, and there are no agricultural operations, residential communities, or large industrial operations located adjacent to the Base. HAFB is an active military installation and is expected to remain active for the foreseeable future. No transfer of military property to the public is anticipated, and public access to the Base is restricted.

Residential development on the Base is limited by environmental and operational constraints imposed by the 100-year floodplain, historic sites, and areas identified under the Installation Restoration Program. Safety and noise zones also limit residential

[1] http://countrystudies.us/united-states/weather/new-mexico/

development on HAFB. Future plans for residential development on the Base include renovation of existing structures, replacement of inefficient buildings, and expansion into open areas in the southeast corner of the Base (HAFB, 2000). Future land use at SWMU 122 and 123 is not expected to differ significantly from current land use practices.

3.10 Current and Future Water Use

At present, the primary fresh water resource for the City of Alamogordo and HAFB is Lake Bonita, 60 miles northeast of the Tularosa Basin. Currently, there are no potable supplies of groundwater or surface water located on the Base. HAFB obtains its water supply from the City of Alamogordo and the HAFB wells in the Boles, San Andres, and Douglas well fields at the base of the Sacramento Mountains. No water supply wells are located on or near the Base because of poor groundwater quality (TDS greater than 10,000 mg/L).

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4 SOURCE CHARACTERIZATION

Based on the previous investigations described in Section 2, SWMUs 122 and 123 have been the subject of five environmental investigations and three PCS removal actions that were conducted from 1988 through 2005. Source area characterization for these two sites has been described in the following eight historical documents:

- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report*, 1988, A.T. Kearney, Inc and DPRA Inc.
- *Phase I RCRA Facility Investigation Report, Table 2 Solid Waste Management Units,* 1994, Radian Corporation.
- *Closure Report for Remediation of POL – Contaminated Sites and Oil/Water Separator Removals, Holloman Air Force Base, New Mexico, July – November, 1995,* 1995, EBASCO Services, Inc., and Groundwater Technology Government Services, Inc.
- *Additional Characterization of POL-Contaminated Sites SWMU-3, SWMU-8, SWMU-36, SWMU-123 and OT-44, Holloman Air Force Base, New Mexico,* 1996, Groundwater Technology Government Services, Inc.
- *Final Closure Report Addendum for Phase II Remediation of POL-Contaminated Sites and Oil/Water Separator and Waste Oil Tank Removals, Holloman Air Force Base, New Mexico,* 1997, Foster Wheeler Environmental Corporation.
- *Results of Additional Soil Sampling for Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico,* 1999, Foster Wheeler Environmental Corporation.
- *Site Investigation Report SWMU 123, Holloman Air Force Base, New Mexico,* 2004, Bhate Environmental Associates, Inc.
- *Voluntary Corrective Measures Work Plan SWMU 123, Holloman Air Force Base, New Mexico,* 2005, Bhate Environmental Associates, Inc.

The primary objectives of the SWMU 122 and 123 RFI were to:

1. Identify potential releases to the subsurface soil and groundwater from the previously removed Building 702 Waste Oil Tank (SWMU 122).
2. Delineate the downgradient horizontal extent of VOC (benzene, toluene, ethylbenzene, and xylene) groundwater contamination from the previously removed Building 704 Waste Oil Tank (SWMU 123) that has been identified under the POL Washrack.
3. Collect sufficient analytical data to complete a site-specific risk assessment of the soil and groundwater exposure pathways.
4. Collect the proper data to meet the DQOs to support closure of these two sites based on guidance from the NMED.

The purpose of the RFI at SWMU 122 and 123 was to collect soil and groundwater data to fill existing data gaps. The results of the additional subsurface soil and groundwater characterization at SWMU 122 and 123 are presented in Section 7 (Nature and Extent of Contamination) of this Report.

5 FIELD ACTIVITIES

This section presents a summary of the SWMU 122 and 123 RFI field activities performed by NationView from July 7 to 15, 2009.

The objectives of the RFI activities at the previously removed Building 702 Waste Oil Tank (SWMU 122) and the previously removed Building 704 Waste Oil Tank (SWMU 123) were to collect additional soil and groundwater data to evaluate the current conditions of these two sites. To meet the RFI objectives at SWMU 122 and 123, the following activities were performed by NationView in July 2009:

- Advanced and sampled four boreholes (SWMU122-DP01 through SWMU122-DP04) around the previously removed Building 702 Waste Oil Tank (SWMU 122) to identify potential releases to the soil and groundwater.
- Collected groundwater samples from 3 existing monitoring wells (SWMU123-MW3, SWMU123-MW4, and SWMU123-MW5) and 12 newly installed monitoring wells (SWMU122-MW01 through SWMU122-MW12).
- Analyzed soil and groundwater samples for VOCs, SVOCs, TPH, PCBs, TAL metals, and TDS (groundwater only).
- Geotechnical soil samples were collected from soil boring SWMU122-DP05 to provide geotechnical data of non-impacted soils at the site.

Prior to sampling activities, a Base Dig Permit (AF Fm 103) with a utility clearance, was submitted and approved by the proper HAFB offices. All completed field and waste handling activities at SWMU 122 and 123 were performed in accordance with HAFB Standard Operating Procedures (SOPs), provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b), as outlined in the *Final RCRA Facility Investigation Work Plan, SWMUs 122 and 123, Holloman Air Force Base, New Mexico* (NationView, 2009).

5.1 Subsurface Soil Sampling

Four soil borings (SWMU122-DP01 through SWMU122-DP04) were advanced around the perimeter of the previously removed Building 702 Waste Oil Tank (SWMU 122) (Figure 5-1). The soil borings were advanced in accordance with HAFB SOPs provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b) using a Geoprobe Systems® 6600 Series, DPT drill rig equipped with a Geoprobe Systems® DT325 Dual Tube Soil Sampling System. These soil borings were sampled continuously to depths ranging between 12 and 18-ft bgs. Two soil samples for chemical analysis were collected from each borehole. As shown of Figure 5-2, soil boring SWMU122-DP04 was converted into a permanent 1-inch diameter polyvinyl chloride (PVC) monitoring well (SWMU122-MW01).

Soils were visually classified in the field by a geologist according to the Unified Soil Classification System. Soils were screened using a MiniRae® 2000 PID, with soil-

headspace screening techniques to aid in selecting samples for laboratory chemical analysis. Two soil samples were collected from each of the four borings for laboratory chemical analysis (VOCs, SVOCs, TPH, PCBs, and TAL metals). Due to the lack of elevated PID readings or visual discoloration indicative of contamination, soil samples from each of these four boreholes were collected from approximately 10-ft bgs (capillary fringe) and 5-ft bgs, halfway between the ground surface and saturated soils. Soil samples were placed in the appropriate containers, packed on ice at 4 degrees Celsius (ºC), and delivered under chain-of-custody to Accutest Laboratories in Orlando, Florida. Soil boring logs for this RFI are included in Appendix B of this Report.

Two soil samples were also collected for geotechnical analysis from upgradient boring SWMU122-DP05, to provide geotechnical data from non-impacted soils (Figure 5-1). Geotechnical soil samples were collected from depths of 3 to 4-ft bgs, and 7 to 8-ft bgs (above the water table) and were analyzed for dry bulk density, specific gravity, moisture content, and fractional organic carbon content. Geotechnical samples were collected in a thin-walled soil sampler to ensure a non-disturbed sample, and shipped under chain-of-custody to Accutest Laboratories in Orlando, Florida. A summary of soil boring locations and sample intervals is provided as Table 5-1.

In addition, 11 soil borings were advanced downgradient of SWMUs 122 and 123 using the Geoprobe Systems® DT325 Dual Tube Sampling System for installing a network of permanent monitoring wells (SWMU122-MW02 through SWMU122-MW12) (Figure 5-2). These soil borings were advanced to a depth of 18 to 20 ft bgs. Soils from these borings were lithologically logged and screened with a PID via headspace readings by a geologist. Soil samples for offsite chemical analysis were not collected from these boreholes.

5.2 Monitoring Well Installation and Development

As shown on Figure 5-2, 12 soil borings were converted into permanent 1-inch PVC monitoring wells (SWMU122-MW01 through SWMU122-MW12). Upon completion of soil sampling a 10 foot section of 0.010-inch slot pre-packed PVC well screen threaded to 1-inch PVC riser was lowered into the outer casing of the DPT tool string. As the DPT tool string was retracted from the borehole, 10/20 mesh silica sand was tremmied into the boring to a height of 2-ft above the top of the well screen to provide an additional sand filter pack for the monitoring well. Following placement of the sand filter pack, a 2-ft granular bentonite seal was installed above the sand filter pack and hydrated with potable water. Portland cement grout was then gravity fed into the borehole for the remaining annular seal, extending to a height of 1-ft bgs. Monitoring wells SWMU122-MW01 through SWMU122-MW12 were completed at the ground surface with an 8-inch protective flush mount cover, and a 1-inch locking cap at the well head. Monitoring well construction diagrams are provided in Appendix C and a summary of monitoring well construction details is included in Table 5-2.

The required time period between monitoring well installation and the initiation of well development referenced in the *Final RCRA Facility Investigation Work Plan, SWMUs 122 and 123, Holloman Air Force Base, New Mexico* (NationView, 2009) was a minimum of 48 hours. A variance for this requirement was executed during the performance of well development on the newly installed monitoring wells at SWMUs 122 and 123. As per the *New Mexico Environment Department Ground Water Discharge Permit Monitoring Well Construction and Abandonment Guidelines* (NMED, 2008) monitoring well development is allowed to commence after a minimum of 12 hours has elapsed following well completion. A variance form for this field change was completed on June 23, 2009, and is included in Attachment B of this Report.

Monitoring wells SWMU122-MW01 through SWMU122-MW12 were developed using a combination of surging and pumping. Prior to well development, a water-level measurement was taken at each well using an electronic water-level probe. This information, in addition to well depth, and well diameter, was used to calculate the volume of water in each well. Each newly installed monitoring well was surged in 2-to-3 foot intervals from the bottom of the screened interval to agitate and remove the fine grained sediment from the filter pack. At the completion of surging the groundwater was removed using a peristaltic pump attached to ¼-inch polyethylene tubing. Development was performed by over-pumping the well until at least five well volumes had been removed, and the potential of Hydrogen (pH), turbidity, dissolved oxygen, specific conductivity, and temperature had stabilized by +/- 10 percent for at least three consecutive readings with a multi-parameter groundwater meter. Monitoring well development forms for each of the newly installed wells at SWMUs 122 and 123 are provided in Appendix D of this Report.

5.3 Groundwater Sampling

In July 2009, groundwater samples were collected from 3 existing monitoring wells (SWMU123-MW3 through SWMU123-MW5) and the 12 newly installed wells (SWMU122-MW01 through SWMU122-MW12) which are shown on Figure 5-2. Prior to sampling, groundwater levels were collected from each monitoring well and the wells were purged using low flow purging techniques with a peristaltic pump, new dedicated ¼-inch polyethylene tubing, and a flow-thru cell. Field parameters were recorded for every well volume of groundwater removed. Field parameters were considered stable when the pH measurements remained constant within 0.1 units; specific conductivity, dissolved oxygen and temperature varied by no more than 10 percent, and turbidity by no more than 5 nephelometric turbidity units. Groundwater samples were not collected until three consecutive field parameter measurements met stabilization criteria. Appendix E provides monitoring well sample collection forms which contain the groundwater purging data recorded prior sample collection. Groundwater samples collected for VOC analysis were collected prior to other analytes, using a new disposable Teflon® bailer. Following the collection of samples for VOC analysis, groundwater samples for the remaining analytes (SVOCs, TPH, PCBs, TDS, and TAL metals) were collected using a peristaltic pump and low-flow sampling techniques.

Samples collected for TAL metals analysis were field filtered using dedicated 0.45 micron disposable filters. Groundwater samples were placed in the appropriate containers, packed on ice at 4 ºC, and delivered under chain-of-custody to Accutest Laboratories located in Orlando, Florida.

5.4 Surveying

The SWMU 122 and 123 RFI boreholes and monitoring wells were surveyed using a Trimble® Geometric Pro XR global positioning system (GPS) in accordance with methods described in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b). The horizontal locations (northing and easting coordinates) are relative to the State Plane Coordinate System New Mexico Central and surveyed to an accuracy of +/- 1.0 ft. Vertical elevations were referenced to the North American Datum (NAD) 1983. The top of casing (vertical control) was used to determine the depth and elevation of the groundwater and surveyed to an accuracy of +/-0.01 ft. Table 3-2 summarizes the monitoring well survey data along with depth to groundwater measurements collected in July 2009.

5.5 Equipment Decontamination

All drilling equipment associated with soil sampling (DPT rod and tooling) was decontaminated in accordance with the HAFB SOPs provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b).

5.6 Waste Handling

All investigation derived waste (IDW) produced during the investigation process was handled in accordance with the HAFB SOPs provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b).

6 LABORATORY ANALYSIS AND DATA VALIDATION SUMMARY

The analysis of soil and groundwater samples collected during this investigation followed the proposed methodologies presented in the *Final RCRA Facility Investigation Work Plan SWMUs 122 and 123, Holloman AFB, New Mexico* (NationView, 2009). All analytical procedures followed the USEPA SW-846 protocol with the groundwater and soil samples being analyzed in various combinations for the following:

- VOCs by USEPA Method 8260B
- SVOCs by USEPA Method 8270C
- PCBs by USEPA Method 8082
- TPH – GRO, DRO, and ORO by USEPA Method 8015/8015M
- TAL Metals by USEPA 6010B/7470A/7471A

The groundwater samples were also analyzed for:

- TDS by USEPA Method SM19 2540C

All of the laboratory data generated as part of the RFI conducted at SWMUs 122 and 123 was validated by the project chemist. Field Quality Assurance (QA)/Quality Control (QC) samples, including trip blanks, equipment blank, matrix spikes, and matrix spike duplicates were collected to document field and laboratory QA/QC. The analytical data packages are provided in Appendix F (on CD only) and the Data Validation Reports for each data package is provided in Appendix G of this Report. Accutest Laboratories in Orlando, Florida performed the analysis of all samples collected.

Overall, only minor QC issues were identified during the data validation of the laboratory results and the laboratory took all necessary corrective actions. All of the data were determined to be usable with only minor qualifications. Information regarding the precision, accuracy, representativeness, and completeness is provided in the validation reports (Appendix G) with the following sections providing a synopsis of each analyte group.

6.1 Volatile Organic Compounds

Sample SWMU122-MW01 was not properly preserved to a pH<2. This decreased the hold time which resulted in the sample being analyzed outside the requisite timeframe. All compounds were considered estimated and were qualified as estimated, “J”, or as estimated non-detected, “UJ”.

The three trip blanks, associated with all soil samples, were analyzed outside hold time. For qualification purposes, only one trip blank yielded a positive detection for methylene chloride. The associated samples, SWMU122-DP04-10 and SWMU122-DP04-10-A,

were the only ones that reported a positive result for this compound and it was qualified as estimated, “J”.

The laboratory control sample (LCS) recoveries for 1,1-dichloroethylene, trans-1,2-dichloroethylene, and hexane were above QC limits associated with samples SWMU122-MW05 and SWMU122-MW09. The only sample that yielded a positive result for hexane, SWMU122-MW09, was qualified as estimated, “J”. The LCS recovery for acrolein, associated with sample SWMU122-MW06, was below QC limits. This non-detected compound was qualified as estimated, non-detected, “UJ”.

A dilution of samples SWMU122-MW09 was required due to high concentrations of target compounds. Elevated reporting limits were reported.

6.2 Semi-volatile Organic Compounds

No QC deficiencies warranted qualification of the semi-volatile data.

6.3 Polychlorinated Biphenyls

No QC deficiencies warranted qualification of the PCB data.

6.4 Total Petroleum Hydrocarbons

Sample SWMU123-MW5 was analyzed beyond hold time for the analysis of TPH-GRO. This non-detected result was qualified as estimated, non-detected, “UJ”.

The relative percent difference (RPD) between the sample and field duplicate (SWMU123-MW3 and SWMU123-MW3-A) was outside control limits for TPH-DRO and it was qualified as estimated, “J”, in both samples.

Due to high analyte concentrations, samples SWMU123-MW3 (TPH-DRO/ORO) and SWMU122-MW09 (TPH-GRO) required a dilution. Elevated reporting limits were reported.

6.5 Target Analyte List Metals

In numerous samples, the matrix spike (MS)/matrix spike duplicate (MSD) percent recoveries (%Rs) and/or RPD were outside control limits for aluminum, antimony, iron, calcium, copper, magnesium, manganese, sodium and potassium. In most cases, control limits were not applicable for aluminum, iron, calcium, magnesium, and sodium when the sample exceeded the spiked concentration by a factor of four or more.

The potassium recovery was >125% and was qualified estimated, “J”, in the following samples: SWMU122-MW04, SWMU122-MW02, SWMU122-MW03, SWMU122-MW07, SWMU122-MW01, SWMU122-MW08, SWMU123-MW3, SWMU123-MW3-A, SWMU123-MW4, SWMU122-MW05, SWMU122-MW09, SWMU122-MW06,

SWMU122-MW10, SWMU122-MW10-A, SWMU123-MW5, SWMU122-MW11, and SWMU122-MW12. Antimony and manganese yielded recoveries >125% in all associated soil samples and were qualified as either; estimated, "J", or estimated non-detected, "UJ". Those metals not requiring qualification were due to the fact their recovery was <125%.

The RPD for the laboratory duplicate of multiple metals was above QC limits. Arsenic and cobalt, in samples SWMU122-MW04, SWMU122-MW02, SWMU122-MW03, SWMU122-MW07, SWMU122-MW01, and SWMU122-MW08, were qualified as estimated, "J", or estimated non-detected, "UJ". Arsenic in samples SWMU122-MW05 and SWMU122-MW09 was qualified as estimated, "J". Otherwise, low duplicate and sample concentrations deemed the other RPDs acceptable.

The serial dilution of multiple metals was outside QC limits. Only the following metals yielded a sample concentration >50 times the method detection limit (MDL) and necessitated a qualification of estimated, "J". Calcium in groundwater samples SWMU122-MW04, SWMU122-MW02, SWMU122-MW03, SWMU122-MW07, SWMU122-MW01, SWMU122-MW08, SWMU122-MW05, SWMU122-MW09, SWMU122-MW06, SWMU122-MW10, SWMU122-MW10-A, SWMU123-MW5, SWMU122-MW11, SWMU122-MW12, and all soil samples. Sodium in groundwater samples SWMU122-MW04, SWMU122-MW02, SWMU122-MW03, SWMU122-MW07, SWMU122-MW01, SWMU122-MW08, SWMU122-MW06, SWMU122-MW11, and SWMU122-MW12. Iron in groundwater sample SWMU122-MW04 and all soil samples. Vanadium in groundwater and soil samples SWMU122-MW03, SWMU122-MW08, SWMU122-DP01-10.5, SWMU122-DP01-5, SWMU122-DP02-10, SWMU122-DP03-10, SWMU122-DP04-5, SWMU122-DP04-10, and SWMU122-DP04-10-A. Potassium in groundwater samples SWMU123-MW4 and SWMU123-MW5. Magnesium and manganese in all soil samples. Chromium and zinc in soil samples SWMU122-DP01-5 and SWMU122-DP02-10. Cobalt in soil sample SWMU122-DP02-10.

The RPD between the sample and field duplicate (SWMU122-DP04-10 and SWMU122-DP04-10-A) was outside site specific control limits for arsenic, barium, cobalt, magnesium, copper, manganese, and vanadium. These metals were qualified as estimated, "J", in both samples.

Multiple samples required a dilution of various metals due to matrix interference. (See the individual laboratory data validation reports in Appendix G of this Report).

6.6 Total Dissolved Solids

The analysis of samples SWMU122-MW05 and SWMU122-MW09 was performed outside hold time. Additionally, TDS was detected in the method blank associated with the aforementioned samples. Therefore, TDS was qualified as estimated, "J", in both samples.

The RPD for the laboratory duplicate of samples SWMU123-MW3, SWMU123-MW3-A, SWMU123-MW4, SWMU122-MW10, SWMU122-MW10-A and SWMU123-MW5 was

outside QC limits. Therefore, TDS was qualified as estimated, “J”, in these samples.

The RPD between the sample and field duplicate (SWMU122-MW10 and SWMU122-MW10-A) was outside site specific control limits and was qualified as estimated, “J”, in both samples.

A dilution of samples SWMU122-MW04, SWMU122-MW02, SWMU122-MW07, SWMU122-MW01, SWMU122-MW08, SWMU123-MW3, SWMU123-MW3-A, SWMU123-MW4, SWMU122-MW10, and SWMU123-MW5 was required due to high analyte concentrations. Elevated reporting limits were reported.

7 NATURE AND EXTENT OF CONTAMINATION

This section presents the soil and groundwater analytical results from the RFI field activities completed at SWMUs 122 and 123 by NationView in July 2009. This section also presents the current nature and extent of contamination found in soil and groundwater during this investigation. The soil and groundwater sampling locations from this investigation are shown on Figures 5-1 and 5-2, respectively.

The objectives of the additional soil and groundwater sampling conducted during the RFI at SWMUs 122 and 123 were to; identify potential releases from the previously removed Building 702 Waste Oil Tank (SWMU 122), delineate the horizontal extent of VOC groundwater contamination from the previously removed Building 704 Waste Oil Tank (SWMU 123), and to collect sufficient analytical data to complete a site-specific risk assessment to support closure of these SWMUs (if required). The ultimate objective is to obtain NFA status under criterion #5 (Appendix 4-B [NMED, 2004a]) and obtain a Class III permit modification to remove SWMU 122 and SWMU 123 from Table A of the HAFB Hazardous Waste Facility Permit No. NM6572124422.

The soil (geochemical and geotechnical) and groundwater analytical results collected during this RFI are summarized in Tables 7-1 through 7-3. A duplicate soil sample was collected in borehole SWMU122-DP04 (10 ft bgs) and duplicate groundwater samples were collected from monitoring wells SWMU123-MW3 and SWMU122-MW10. The complete laboratory analytical results for the RFI soil and groundwater sampling are included in Appendix F of this report (on CD only).

7.1 Soil Analytical Results

In July 2009, 9 subsurface soil samples (including one duplicate) were collected from the 4 DPT soil borings (SWMU122-DP01 through SWMU122-DP04) which were advanced in close proximity to the former Building 702 Waste Oil Tank (SWMU 122). These samples were analyzed for VOCs, SVOCs, TPH (DRO, GRO, and ORO), PCBs and TAL metals. The subsurface soil samples were collected at approximately 5 and 10 feet bgs. The last digit of the sample identification number indicates the bottom of the sample interval; the SWMU 122 analytical results for soil are summarized in Table 7-1 and the boring locations with selected results are shown on Figure 7-1.

7.1.1 Volatile Organic Compounds

Methylene chloride was the only VOC detected above the MDL in the soil samples collected during the RFI. Estimated concentrations of methylene chloride were detected in five samples with concentrations ranging from 6.0 J to 12.2 J µg/kg and were below the NMED SSL (199 mg/kg).

7.1.2 Semi Volatile Organic Compounds

All SVOC compounds were not detected in any of the nine SWMU 122 soil samples collected during this RFI (Table 7-1).

7.1.3 Total Petroleum Hydrocarbons

All TPH fractions (-GRO, -DRO, and –ORO) were not detected in any of the nine SWMU 122 soil samples collected during this RFI (Table 7-1).

7.1.4 Polychlorinated Biphenyls

All PCB compounds were not detected in any of the nine SWMU 122 soil samples collected during this RFI (Table 7-1).

7.1.5 TAL Metals

Nineteen of the twenty-three TAL metals were detected above the MDL (Table 7-1). With the exception of three detections of arsenic, all TAL metals were detected below their respective SSLs (NMED, 2009). Arsenic was detected slightly above the SSL (3.9 mg/kg) and the NMED approved background level (3.7 mg/kg) in soil samples SWMU122-DP02-10 (6.3 mg/kg), -DP03-10 (5.8 mg/kg), and –DP04-10-A (7.5 mg/kg). Although these three detections of arsenic slightly exceeded the NMED SSL and approved background level, they most like represent the natural variability in soil geochemistry at HAFB. Figure 7-1 shows the arsenic concentrations which were detected above the SSL. Estimated concentrations of selenium were detected above the NMED approved HAFB background level (1.4 mg/kg) in all soil samples. Selenium concentrations range from 1.9J mg/kg (SWMU122-DP01-05) to 7.3J mg/kg (SWMU122-DP03-05). Additionally, magnesium concentrations exceeded the NMED approved HAFB background level (16,991 mg/kg) in soil samples SWMU122-DP02-10 (18,000 mg/kg) and SWMU122-DP03-10 (18,600 mg/kg). It should be noted that magnesium does not have a NMED SSL.

7.1.6 Geotechnical Soil Samples

The two geotechnical samples collected from offset borehole SWMU122-DP05 (SWMU122-DP05-4 and -8) were analyzed for dry bulk density, fractional organic carbon, moisture (percent solids), and specific gravity. The geotechnical analytical results are presented in Table 7-2 and the complete results from Accutest Laboratories are also included in Appendix F of this Report.

7.2 Groundwater Analytical Results

Groundwater samples were collected from the twelve new monitoring wells (SWMU 122-MW01 through SWMU122-MW12) along with three existing onsite monitoring wells (SWMU123-MW3 through SWMU123-MW5) during the SWMU 122 and 123 RFI

sampling event (July 2009). The groundwater samples collected from the SWMU 122 and 123 monitoring well network were analyzed for VOCs, SVOCs, TPH, PCBs, TAL metals, and TDS. The analytical results are presented in Table 7-3 and the monitoring well locations are shown on Figure 7-2. The following narrative provides a summary of the groundwater data which exceeds the current screening criteria (USEPA MCLs and/or the NMWQCC groundwater standards) and comparison to the applicable NMED background levels (NMED, 2011) for TAL metals.

7.2.1 Volatile Organic Compounds

Twenty one VOCs were detected above the MDL in the seventeen groundwater samples (including two duplicates) collected at SWMUs 122 and 123. Total xylenes (using the combined concentrations of m-p and o-xylene) was the only VOC detected above its respective USEPA MCL and/or the NMWQCC groundwater standard. In monitoring well SWMU122-MW09, m-p and o-xylene were detected with a combined concentration of 725 µg/L, which is above the NMWQCC groundwater standard (620 µg/L) but below the USEPA MCL (10,000 µg/L) for total xylenes. Monitoring well SWMU122-MW09 is located on the second downgradient line of wells from SWMUs 122 and 123 (Figure 7-2). This exceedence of total xylenes (combined m-p, and o-xylene concnettations) does not appear to be related to SWMU 122 or 123 as m-p-xylene, and o-xylene were not detected in the groundwater samples collected from the six upgradient wells (SWMU122-MW03, -MW04, -MW05, SWMU123-MW3, -MW4, and -MW5) which are located immediately downgradient from the two SWMUs (Table 7-3). This suggests that the total xylenes groundwater contamination may be related to the up/cross-gradient POL tank farm located less than 100 ft to the north-northeast from SWMU122-MW09. Figure 5-2 illustrates the location of monitoring well SWMU122-MW09 in relationship to the tank farm.

7.2.2 Semi-Volatile Organic Compounds

Low and estimated concentrations of seven SVOCs were detected in nine of the groundwater samples collected at SWMUs 122 and 123. As shown on Table 7-3 each of these SVOC detections were below their respective USEPA and NMWQCC action levels.

7.2.3 Total Petroleum Hydrocarbons

TPH fractions GRO (C_6 – C_{10}), DRO (C_{10} – C_{22}), and ORO (>C_{22} – C_{36}) were detected above the MDL in the groundwater samples collected from seven monitoring wells (Table 7-3). TPH-DRO was detected slightly above the NMED TPH screening guideline (Concentration in Groundwater) for diesel #2/crankcase oil (30.4 mg/L [NMED, 2006, Table 2b]) in the groundwater sample collected from SWMU123-MW3 with a concentration of 37.0 mg/L. Additionally, the duplicate groundwater sample collected from this monitoring well (SWMU123-MW3-A) contained a much lower TPH-DRO concentration (0.548 mg/L) which is well below the NMED TPH screening guideline for diesel#2/ crankcase oil. Monitoring well SWMU123-MW3 is located 50 ft down/cross-

gradient from the previously removed Building 704 waste oil tank (SWMU 123) (Figure 7-2). All other detections of TPH-GRO, -DRO, and –ORO (individual and combined) in groundwater samples collected during this sampling event were below the NMED TPH screening guideline for diesel #2/crankcase oil.

7.2.4 Polychlorinated Biphenyls

All PCB compounds were not detected in any of the SWMU 122 and 123 groundwater samples collected during this RFI (Table 7-3).

7.2.5 TAL Metals

A total of 19 TAL metals were detected above the MDL. Four of the TAL metals (arsenic, iron, manganese, and thallium) were detected above the lowest of their respective USEPA MCLs, USEPA Secondary MCLs, and/or NMQWCC groundwater standards (Table 7-3).

Arsenic was detected above the NMWQCC groundwater standard (10 µg/L) in eight groundwater samples, with concentrations ranging from 10.7 µg/L (SWMU122-MW01) to 29.0 µg/L (SWMU123-MW4). However, it should be noted that arsenic is below the basewide background Upper Tolerance Limit (UTL) (28.53 µg/L) in all groundwater samples except SWMU123-MW4 (29.0 µg/L) (NationViewIBhate JV III, 2011).

Iron was detected above the USEPA Secondary MCL (300 µg/L) in four groundwater samples (SWMU122-MW01, SWMU122-MW04, SWMU122-MW07, and SWMU122-MW12) with concentrations ranging from 526 µg/L to 13,600 µg/L. In addition, iron was detected above the NMED approved background level for dissolved iron (65.5 µg/L) in monitoring well SWMU122-MW09 (245 J µg/L).

Manganese was detected above the USEPA Secondary MCL (50 µg/L) in 12 groundwater samples, with concentrations ranging from 80.1 µg/L (SWMU122-MW02) to 2,490 µg/L (SWMU122-MW03). Although 12 wells had iron and/or manganese detections above the their applicable USEPA Secondary MCLs, the National Secondary Drinking Water Regulations are non-enforceable guidelines regarding contaminants that may case aesthetic effects (such as taste, odor, or color) in drinking water (USEPA, 2009).

Two estimated concentrations of thallium were detected above the USEPA MCL (2 µg/L); 4.2 J µg/L in monitoring well SWMU122-MW05 and 4.0 J µg/L in monitoring well SWMU122-MW09. Figure 7-2 presents the distribution of TAL metals detected in groundwater which exceeded applicable USEPA MCLs, USEPA Secondary MCLs, and/or NMWQCC groundwater standards at SWMU 122 and 123.

Additionally, eight metals (barium, chromium, cobalt, copper, nickel, selenium, vanadium, and zinc) were detected in 13 groundwater samples above NMED approved HAFB background levels (Table 3, NMED, 2011), but at concentrations below their

respective action levels (MCLs and/or NMWQCC groundwater standards). However, in the case of vanadium there is not a current MCL or NMWQCC groundwater standard.

7.2.6 Total Dissolved Solids

TDS concentrations ranged from 1,750 mg/L (SWMU122-MW03) to 23,000 mg/L (SWMU122-MW12) and exceeded both the NMWQCC groundwater standard (1,000 mg/L) and the USEPA Secondary MCL (500 µg/L). In addition, two samples (SWMU122-MW06 and SWMU122-MW12) had TDS concentrations above 10,000 mg/L and exceeded the USEPA guidelines for potable water (USEPA, 1986). Furthermore, the TDS concentrations less than 10,000 mg/L (13 of the 15 SWMU 122 and 123 monitoring wells) are most likely anthropogenic, due to the leaking underground water lines which traverse the site and runoff from the POL Washrack. Figure 7-2 presents all of the TDS concentrations which were detected above the USEPA Secondary MCL and the NMWQCC groundwater standard during the 2009 groundwater sampling event.

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8 RISK BASED EVALUATION

This section presents the methodology used for the risk evaluation for SWMUs 122 and 123. The methodology consists of the following:

1. Compilation of data (refer to Section 8.1);
2. Identification of chemicals of potential concern (COPCs) (refer to Section 8.2);
3. Development of exposure model (EM) (refer to Section 8.3);
4. Calculation of representative concentrations (refer to Section 8.4);
5. Calculation of risk for complete exposure pathways (refer to Section 8.5);
6. Calculation of cumulative risk (refer to Section 8.6); and
7. Uncertainty analysis (refer to Section 8.7).

Each of the above steps is discussed in detail below.

8.1 Compilation of Data

8.1.1 Summary of All Available Data

Following is a summary of the soil data available at SWMUs 122 and 123:

Date	Sample Locations	No. of Sample Locations	No. of Samples
1993	021-B01, 022-B01, 022-B02, 123-B01, 123-B02, 123-B03	6	12 [a]
1995	SWMU-123-1-7 to SWMU-123-5-7	5	5 [b]
February 1996	SWMU-123-DP-1, SWMU-123-DP-3, SWMU-123-DP-4	3	6 [c]
March 1997	SWMU123-01-09 to SWMU123-05-09	5	5 [d]
January 1999	SWMU-SB-A, SWMU-SB-B, SWMU-SB-C, SWMU-SB-E, SWMU-SB-I, SWMU-SB-J	6	13 [e]
April 2004	SB-1 to SB-5, DP-01 to DP-09	14	31 [f]
2005 – 2006	SW01 to SW06, SW06-OE, SW07, SW08, SW08-OE, SW-09 to SW16, Bottom Sample 1 to Bottom Sample 4	21	23 [g]
July 2009	SWMU122-DP01 to SWMU122-DP04	4	9 [h]

Notes:

[a] Samples collected in 1993 were not used for the Risk Assessment (RA) since samples from 123-B01 and 123-B02 were located where the soil was over excavated in 1995. The remaining samples are over 19 years old and not representative of current conditions.

[b] Samples collected in 1995 were not used for the RA since samples were collected where the soil was over excavated and disposed off-site in 1997.

[c] Samples collected in February 1996 were not used for the RA since samples are over 16 years old and not representative of current conditions. Recent and more representative samples are available from this area.

[d] Samples collected in March 1997 were not used for the RA since samples were located where the soil was over excavated in 2005 – 2006.

[e] Samples collected in January 1999 were not used for the RA since samples were located where the soil was over excavated in 2005 – 2006.

[f] Three duplicate samples were collected. Samples collected in April 2004 were not used in the RA since samples are over 8 years old and not representative of current conditions. Samples from SB-1, SB-2, DP-02, DP-03, DP-04, and DP-08 were over excavated and disposed off-site in 2005 – 2006.
[g] One duplicate sample was collected from SW09. Samples from SW01 and SW06 were not used in the RA since samples were over excavated.
[H] One duplicate sample was collected from SWMU122-DP-04 (at 10 ft bgs).

Following is a summary of the groundwater data available at SWMUs 122 and 123:

Monitoring Well	No. of Sampling Events	Sampling Date
SWMU123-MW1 [a]	1	May 2004 [c]
SWMU123-MW2 [a]	2	May 2004 [c], Sep. 2004 [c]
SWMU123-MW3	3 [b]	May 2004 [c], Sep. 2004 [c], July 2009
SWMU123-MW4	3	May 2004 [c], Sep. 2004 [c], July 2009
SWMU123-MW5	3	May 2004 [c], Sep. 2004 [c], July 2009
SWMU122-MW01	1	July 2009
SWMU122-MW02	1	July 2009
SWMU122-MW03	1	July 2009
SWMU122-MW04	1	July 2009
SWMU122-MW05	1	July 2009
SWMU122-MW06	1	July 2009
SWMU122-MW07	1	July 2009
SWMU122-MW08	1	July 2009
SWMU122-MW09	1	July 2009
SWMU122-MW10	1 [b]	July 2009
SWMU122-MW11	1	July 2009
SWMU122-MW12	1	July 2009

Note:
[a] SWMU123-MW1 and SWMU123-MW2 were destroyed during the excavation in 2005 – 2006.
[b] One duplicate sample was collected in July 2009.
[c] Samples collected in 2004 were not used for the RA since these samples are too old and are not representative of current conditions.

8.1.2 Summary of Data Used for Risk Assessment

Based on the above, the soil data used for the RA is summarized below:

Date	Sample Locations	No. of Sample Locations	No. of Samples
2005 – 2006	SW02 to SW05, SW06-OE, SW07, SW08, SW08-OE, SW-09 to SW16, Bottom Sample 1 to Bottom Sample 4	19	21
July 2009	SWMU122-DP01 to SWMU122-DP04	4	9

Figure 1 in Appendix A-8 and Figure 5-1 show the location of the soil samples used for the RA.

Based on the above, the groundwater data used for the RA are summarized below:

Monitoring Well	No. of Sampling Events	No. of Samples	Sampling Date
SWMU123-MW3	1	2	July 2009
SWMU123-MW4	1	1	July 2009
SWMU123-MW5	1	1	July 2009
SWMU122-MW01	1	1	July 2009
SWMU122-MW02	1	1	July 2009
SWMU122-MW03	1	1	July 2009
SWMU122-MW04	1	1	July 2009
SWMU122-MW05	1	1	July 2009
SWMU122-MW06	1	1	July 2009
SWMU122-MW07	1	1	July 2009
SWMU122-MW08	1	1	July 2009
SWMU122-MW09	1	1	July 2009
SWMU122-MW10	1	2	July 2009
SWMU122-MW11	1	1	July 2009
SWMU122-MW12	1	1	July 2009

Figure 7-2 shows the location of the groundwater samples used for the RA.

Chemicals with at least one detected concentration anywhere on the site were considered for the RA. Tables 8-1(a) and 8-2(a) present the soil and groundwater data used for the RA, respectively.

For chemicals not detected, reporting limits are presented. The data compiled in Tables 8-1(a) and 8-2(a) were quantitatively evaluated for use in the RA as follows:

- Conservatively, data with laboratory qualifier “J” were considered as detected concentrations.
- Naphthalene was reported using two analytical methods under VOCs (USEPA Method 8260) and SVOCs (USEPA Method 8270). The two concentrations were treated as follows and naphthalene is listed under the VOCs:
    - If both concentrations were detected, the average of the two was taken and considered as a detected concentration.
    - If one of the concentrations was detected and the other was below the reporting limit, the result below the reporting limit was replaced with half the reporting limit. The average of the two concentrations was calculated and the result was considered as a detected concentration.
    - If both concentrations were below the reporting limits, the lower reporting limit was used and the concentration was considered as not detected. Typically, the SVOCs analytical method had higher reporting limits.
- Xylene concentrations were reported as o-xylene and m,p-xylene. Total xylenes were considered in the RA by treating isomer xylenes as follows:

  - If the isomer concentrations were detected, the concentrations were added and considered as a detected value.
  - If one isomer concentration was detected and the other was below the reporting limit, the concentration below the reporting limit was replaced with half the reporting limit. The two concentrations were added and considered as detected.
  - If both isomer concentrations were below the reporting limits, the reporting limits were added and considered as not detected.

- TPH concentrations reported as TPH-GRO (C6-C10) were not considered in the RA since individual compounds that contribute to TPH-GRO (e.g., benzene, toluene, ethylbenzene, xylenes, and naphthalene) are evaluated individually. It is generally known that the risks of these constituents are the risk drivers for TPH-GRO (C6-C10). This is consistent with methodology per the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006).
- Since the NMED (2006) presents the screening levels for TPH which consists of C11 to C36, TPH concentrations reported as TPH-DRO (>C10-C22) and TPH-ORO (>C22-C36) were added as follows and are shown as TPHs (>C10-C36):
  - If both TPH-DRO and TPH-ORO fractions contained detectable concentrations, the sum of the two concentrations were taken and considered as detected.
  - If one of the two concentrations was reported as a detectable concentration and the other concentration was below the reporting limit, the latter was replaced with half the reporting limit and the sum of the two concentrations was used and considered as detected.
  - If both concentrations were below the reporting limits, the reporting limits were added and considered as not detected.
- All duplicate samples were averaged as follows:
  - If both samples contained detectable concentrations, the average of the two were taken and considered as detected.
  - If one of the samples contained a detected concentration and the other was below the reporting limit, the result below the reporting limit was replaced with half the reporting limit and average of the two were taken and considered as detected.
  - If both samples had concentrations below the reporting limits, the average of two reporting limits was taken and the sample was considered as not detected.

Based on the above considerations, Tables 8-1(b) and 8-2(b) present the soil and groundwater data used for the RA. Further, Tables 8-1(c) and 8-2(c) present summary statistics of soil and groundwater data used for the RA. Per Table 8-1(c), VOCs and SVOCs in soil had detection frequencies in the range of 4% to 18%. TPHs in soil had a

detection frequency of 39%. Metals in soil except for arsenic, beryllium, cadmium, and lead had detection frequencies of 100%. Per Table 8-2(c), VOCs and SVOCs in groundwater had detection frequencies in the range of 7% to 40%. TPHs in groundwater had a detection frequency of 47%. Most metals in groundwater had detection frequencies greater than 40%.

8.2 Identification of Chemicals of Potential Concern

To identify COPCs, the maximum detected concentration of each chemical that had at least one detected concentration was compared with its applicable screening level as discussed below.

8.2.1 Chemicals of Potential Concern in Soil

As described in Section 2.5.1 of this Report, and as per the responses to the NMED's comments on the *Final RCRA Facility Investigation Work Plan SWMUs 122 and 123* (NationView, December 2009), the screening levels for soil were obtained from the following sources:

- NMED SSLs for residential land use (NMED, 2009);
- USEPA RSLs for residential land use (USEPA, 2011);
- NMED TPH screening levels (NMED, 2006); and
- NMED Approved HAFB Background Levels (NMED, 2011).

For chemicals with no NMED SSL (2009) or USEPA RSL (2011), SSLs for residential land use were developed per the methodology in the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

Table 8-1(d) presents the comparison of maximum detected concentrations with screening levels for soil. The chemicals with maximum detected concentrations greater than the screening levels were considered to be COPCs. Based on this comparison, two COPCs (arsenic and magnesium) in soil were identified. Table 8-3 summarizes the COPCs in soil and groundwater.

8.2.2 Chemicals of Potential Concern in Groundwater

As described in Section 2.5.2 of this report, and as per the responses to the NMED's comments on the *Final RCRA Facility Investigation Work Plan SWMUs 122 and 123* (NationView, December 2009), the screening levels for groundwater were obtained from the following sources:

- NMWQCC Groundwater Standards for Contaminants (NMAC 20.6.2.3103);
- USEPA National Priority Drinking Water Regulation MCLs (USEPA, 2009);
- TPH Screening Guidelines (NMED, 2006); and
- NMED Approved HAFB Background Levels (NMED, 2011).

Table 8-2(d) presents the comparison of maximum detected concentrations with screening levels for groundwater. The chemicals with maximum detected concentrations greater than the screening levels and the chemicals without screening levels were considered as COPCs. Based on this comparison, 25 COPCs in groundwater were identified. Table 8-3 summarizes the COPCs in soil and groundwater.

8.3 Development of Exposure Model

This section presents the EM for SWMUs 122 and 123. The EM identifies the potential receptors and the exposure pathways under current and anticipated future conditions.

8.3.1 Receptors

SWMUs 122 and 123 are located in an industrial area near the northwestern and northeastern corners of the POL Washrack (as shown on Figure 2-3). Therefore, a commercial/industrial worker is considered a receptor of concern under current conditions.

As discussed in Section 3.9 of this report, residential development at the HAFB is limited and future land use is not expected to differ significantly from current land use, however, conservatively it was assumed that residential development at or near the site could potentially occur. Therefore, a resident is considered a receptor of concern under future conditions. Additionally, in the future, construction activities may occur; hence, a potential future construction worker is also considered a receptor of concern.

8.3.2 Exposure Pathways

Tables 8-4(a), 8-4(b), and 8-4(c) present the EMs for the current commercial/industrial worker, the future resident, and the future construction worker, respectively. The complete pathways for which risks were quantitatively calculated are discussed below.

For the current commercial/industrial worker, outdoor inhalation of vapors from groundwater is considered a complete exposure pathway and was quantitatively evaluated.

For the future resident, indoor inhalation of vapors from groundwater is considered a complete exposure pathway and was quantitatively evaluated.

For the future construction worker, the following complete exposure pathways were quantitatively evaluated:

- Dermal contact with soil;
- Accidental ingestion of soil; and
- Outdoor inhalation of vapors or particulates from soil.

The exposures due to dermal contact with, ingestion of, and outdoor inhalation of vapors or particulates from soil are referred to as the combined pathway from soil. This pathway was evaluated consistent with the *Technical Background Document for Development of Soil Screening Levels, Revision 5.0* (NMED, 2009) and the *Regional Screening Level Summary Table November 2011* (USEPA, 2011).

8.4 Calculation of Representative Concentrations

The representative concentrations for each of the COPCs and each pathway-receptor combination were estimated using the following methodology:

- For the outdoor inhalation of vapors from groundwater by the current commercial/industrial worker, representative concentrations of groundwater were calculated using all the groundwater data collected.
- For the indoor inhalation of vapors from groundwater by the future resident, conservatively the maximum detected concentration was used since the location of future residential buildings is unknown and could be constructed anywhere.
- For the combined pathway from soil for the construction worker, representative concentrations of soil up to the depth of construction, i.e., samples collected between 0 – 10 ft bgs were used.
- Non-detect concentrations were replaced with half the reporting limit for the calculation of representative concentrations.
- Representative concentrations were based on the arithmetic average concentrations.

The representative concentrations of groundwater for the current commercial/industrial worker area presented in Table 8-5(a). The representative concentrations of groundwater for the future resident were obtained from Table 8-2(d). The representative concentrations of soil for the future construction worker are presented in Table 8-5(b).

8.5 Calculation of Risks

This section discusses the methodology used to calculate risk for the complete exposure pathways identified in Section 8.3 of this Report. As per the EM discussed in Section 8.3, the risks were calculated for the current commercial/industrial worker, the future resident, and the future construction worker. Using the representative concentrations calculated in Section 8.4 and the target levels, the carcinogenic and non-carcinogenic risks of each COPC were calculated by taking the ratio of the representative concentration to the target level. The development of target levels is discussed below.

8.5.1 Outdoor Inhalation of Vapors from Groundwater

For this pathway, the target levels were calculated for the current commercial/industrial worker. Since this pathway is not included in the *NMED Technical Background*

Document for the Development of Soil Screening Levels, Revision 5.0 (NMED, 2009) and the *Regional Screening Levels* (USEPA, 2011), the methodology as per the *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (ASTM, 1995) was used to calculate the target levels. The target levels for this pathway were developed only for the volatile chemicals. As per the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009), a chemical was considered volatile if it's Henry's law constant (H) is 1×10^{-5} atmospheric-cubic meters per mole (atm-m^3/mol) (unitless H of 4.2×10^{-4}) or greater and it's molecular weight is 200 grams/mole or less. The calculated target levels for the commercial/industrial worker are presented in Table 8-9(a).

Specifically, the calculation of target levels requires the following:

- Toxicity values;
- Physical and chemical properties;
- Exposure factors; and
- Fate and transport parameters.

Each of these is discussed below.

8.5.1.1 Toxicity Values

The inhalation toxicity of chemicals with carcinogenic and non-carcinogenic adverse health effects is quantified using unit risk factor and reference concentration, respectively. The unit risk factors and reference concentrations for the COPCs are presented in Table 8-6(a) and were obtained from the following sources:

- USEPA, 2011. Regional Screening Levels; and
- Texas Commission on Environmental Quality (TCEQ, 2011). Texas Risk Reduction Program Rule Tables.

Note that the *Regional Screening Levels* (USEPA, 2011) followed the same hierarchy of human health toxicity values as recommended by the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

As per Table 8-6(a), four volatile COPCs in groundwater (sec-butylbenzene, tert-butylbenzene, p-isopropyltoluene, and 2-methylnaphthalene) do not have inhalation toxicity values. Therefore, these COPCs were not further evaluated for this pathway. However, these COPCs were detected in only one or two groundwater samples. Therefore, these chemicals are not likely to be of concern.

8.5.1.2 Physical and Chemical Properties

The physical and chemical properties for COPCs are presented in Table 8-6(a) and were obtained from the following sources:

- NMED, 2009. *Technical Background Document for Development of Soil*

Screening Levels, Revision 5.0;
- USEPA, 2011. Regional Screening Level Summary Table; and
- TCEQ, 2011. Texas Risk Reduction Program Rule Tables.

8.5.1.3 Exposure Factors

The exposure factors for outdoor inhalation of vapors from groundwater by the commercial/industrial worker are presented in Table 8-6(b) and were obtained from the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

8.5.1.4 Fate and Transport Parameters

The fate and transport parameters for outdoor inhalation of vapors from groundwater are presented in Table 8-6(c). The source of the input parameters is also indicated in the table. Site-specific values are discussed below:

- **Depth to groundwater**: As per Section 3.7 of this Report, depth to groundwater at SWMUs 122 and 123 is generally 9.5 to 11.5 ft bgs. An average depth to the water table of 10.5 ft bgs (320 centimeters [cm]) was used.
- **Thickness of capillary fringe**: As per Section 3.5 of this Report, the vadose zone soil type at SWMUs 122 and 123 is silty sand and silty clay. Therefore, a value of 37.5 cm for loam representative of silty sand and silty clay was used as per the *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings* (USEPA, 2004).
- **Dimension of source area parallel to wind direction**: Since the wind direction is variable, the longest dimension of the source area which is a diagonal of the source area was used to represent this parameter. The use of the longer dimension is conservative and results in higher risk calculations. Based on the groundwater data, the area including wells SWMU123-MW3, SWMU122-MW01, SWMU122-MW03 to SWMU122-MW05, and SWMU122-MW09 was identified as the source area. This area is roughly a square with 150 ft sides. Therefore, a diagonal value of 212 ft (6,466 cm) was used for the source dimension along the direction of wind.
- **Geotechnical parameters**: The following geotechnical parameters are required to evaluate outdoor inhalation of vapors from groundwater:
  - Soil total porosity (n); and
  - Volumetric water-filled porosity (θ_{wv}).

  For SWMUs 122 and 123, the site-specific geotechnical parameters were analyzed for two soil samples collected in the vadose zone (see Table 7-2). The soil total porosity and volumetric water-filled porosity can be estimated using the following equations:

$$n = 1 - \frac{\rho_b}{\rho_s}$$

$$\theta_{wv} = \theta_{wg} \times \frac{\rho_b}{\rho_l}$$

where,

n = Total porosity (cubic centimeters per cubic centimeter [cm^3/cm^3]),
ρ_b = Soil dry bulk density (grams per cubic centimeter [g/cm^3]),
ρ_s = Soil specific gravity (unitless),
ρ_l = Water density (g/cm^3),
θ_{wv} = Volumetric water-filled porosity (cm^3/cm^3), and
θ_{wg} = Gravimetric water-filled porosity (grams per gram [g/g]).

However, the site-specific measured soil dry bulk density (1.1 g/cm^3) and soil specific gravity (1.55) are significantly different from the literature values, i.e., soil dry bulk density in range of 1.35 g/cm^3 to 1.69 g/cm^3 (USEPA, 2004) and soil specific gravity of 2.65 (NMED, 2009). Therefore, default values as per the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009) were used.

For the capillary fringe zone, it was assumed that the soil total porosity was the same as for the vadose zone and 90% of the soil total porosity was the volumetric water-filled porosity.

8.5.2 Indoor Inhalation of Vapors from Groundwater

For this pathway, the target levels were calculated for the future resident. Since this pathway is not included in the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009) and the *Regional Screening Levels* (USEPA, 2011), the methodology as per the Johnson & Ettinger (J&E) model presented in the *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings* (USEPA, 2004) was used to calculate the target levels.

The target levels for this pathway were developed only for the volatile chemicals. The calculated target levels for the resident are presented in Tables 8-9(b).

Specifically, the calculation of target levels requires the following:

- Toxicity values;
- Physical and chemical properties;
- Exposure factors;
- Source parameters;
- Geotechnical parameters; and
- Building parameters.

Each of these is discussed below.

8.5.2.1 Toxicity Values

As discussed in Section 8.5.1.1, the inhalation toxicity values for COPCs (i.e., unit risk factor and reference concentration) are presented in Table 8-7(a).

8.5.2.2 Physical and Chemical Properties

The physical and chemical properties for COPCs are presented in Table 8-7(a) and were obtained from the sources listed in Section 8.5.1.2 of this Report. Three parameters such as normal boiling point, critical temperature, and enthalpy of vaporization at the normal boiling point were not necessary since the average soil temperature used is 25 °C which is the same as the reference temperature of Henry's law constant (refer to Section 8.5.2.4 of this Report). The values presented in Table 8-7(a) were used to run the USEPA spreadsheet implementation of the J&E model.

8.5.2.3 Exposure Factors

The exposure factors for indoor inhalation of vapors from groundwater by the resident are presented in Table 8-7(b) and were obtained from the NMED (2009).

8.5.2.4 Source Parameters

The following source parameters are required to evaluate indoor inhalation of vapors:

- **Average soil temperature:** During the July 2009 sampling event, a site-specific average groundwater temperature of 25 °C was measured at SWMUs 122 and 123. Therefore, the average groundwater temperature of 25 °C was considered as the approximate soil temperature at the site.
- **Depth below grade to water table:** As discussed in Section 8.5.1.4 of this Report, an average depth to the water table of 10.5 ft bgs (320 cm) was used for the depth below grade to water table.
- **Thickness of capillary fringe zone:** As discussed in Section 8.5.1.4 of this Report, a value of 37.5 cm was used for the thickness of capillary fringe zone.

These parameters are presented in Table 8-7(c).

8.5.2.5 Geotechnical Parameters

The geotechnical parameters used are presented in Table 8-7(c). Specifically, the following geotechnical parameters are required to evaluate indoor inhalation of vapors from groundwater.

- Soil total porosity (n); and
- Volumetric water-filled porosity (θ_{wv}).

As discussed in Section 8.5.1.4 of this Report, default values as per the *NMED Technical Background Document for the Development of Soil Screening Levels,*

Revision 5.0 (NMED, 2009) were used.

For the capillary fringe zone, it was assumed that the soil total porosity was the same as for the vadose zone and 90% of the soil total porosity was the volumetric water-filled porosity.

8.5.2.6 Building Parameters

The following building parameters are required to evaluate indoor inhalation of vapors:

- Depth below grade to bottom of enclosed space floor;
- Enclosed space floor thickness;
- Enclosed space floor length;
- Enclosed space floor width;
- Enclosed space height;
- Floor-wall seam crack width;
- Indoor air exchange rate; and
- Average vapor flow rate into building.

The building parameter values used and the source are presented in Table 8-7(c).

8.5.3 Combined Pathway from Soil

For this pathway, the target levels are required for arsenic and magnesium for the future construction worker. The target levels were developed as per the methodology in the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009). The calculated target levels for the construction worker are presented in Tables 8-9(c).

Specifically, the calculation of target levels requires the following:

- Toxicity values;
- Physical and chemical properties;
- Exposure factors; and
- Fate and transport parameters.

Each of these is discussed below.

8.5.3.1 Toxicity Values

The toxicity values for the COPCs are presented in Table 8-8(a). As per the table, magnesium does not have toxicity values. However, magnesium is ubiquitous in soil as per the *Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States* (United States Geological Survey [USGS], 1984) and this was confirmed from the soil samples collected at the site, i.e., magnesium was detected in all the soil samples. In addition, magnesium is not necessarily of concern from a

human health standpoint as per the *Risk Assessment Guidance for Superfund (RAGS) Volume I Human Health Evaluation Manual Part A* (USEPA, 1989).

8.5.3.2 Physical and Chemical Properties

The physical and chemical properties for COPCs are presented in Table 8-8(a).

8.5.3.3 Exposure Factors

The exposure factors for combined pathways from soil by the construction worker are presented in Table 8-8(b) and were obtained from the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

8.5.3.4 Fate and Transport Parameters

The fate and transport parameters for combined pathways from soil are presented in Table 8-8(c). The source of the input parameters is also indicated in the table.

8.6 Calculation of Cumulative Risks

The risk to human health was calculated for each COPC, for each complete exposure pathway, and for each receptor. The cumulative risk for each receptor, i.e., sum of risks for all chemicals and for all complete exposure pathways, was compared with target risks. The following are the target risks for each receptor:

- For potential carcinogenic health effects, the cumulative individual excess lifetime cancer risk (IELCR) for each receptor of 1×10^{-5}; and
- For potential non-carcinogenic health effects, the cumulative hazard index (HI) for each receptor of 1.0.

These target risks are consistent with the *Technical Background Document for Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

For SWMUs 122 and 123, the current commercial/industrial worker, the future resident, and the future construction worker are the receptors of concern. The calculated cumulative risks for the current commercial/industrial worker, the future resident, and the future construction worker are presented in Tables 8-9(a), 8-9(b), and 8-9(c), respectively.

The results indicate:

- For the current commercial/industrial worker:
    - The cumulative IELCR for carcinogenic effects is 3.1×10^{-11}, which is below the acceptable target risk of 1×10^{-5}.
    - The cumulative HI for non-carcinogenic effects is 0.00023, which is below the acceptable target risk of 1.0.

- For the future resident:
  - The cumulative IELCR for carcinogenic effects is 6.5×10^{-6}, which is below the acceptable target risk of 1×10^{-5}.
  - The cumulative HI for non-carcinogenic effects is 1.0, which does not exceed the acceptable target risk of 1.0.
- For the future construction worker,
  - The cumulative IELCR for carcinogenic effects is 3.1×10^{-7}, which is below the acceptable target risk of 1×10^{-5}.
  - The cumulative HI for non-carcinogenic effects is 0.071, which is below the acceptable target risk of 1.0.

Based on the above, the current residual concentration of COPCs in soil and groundwater are protective of the current commercial/industrial worker, the future resident, and the future construction worker.

8.7 Uncertainty Analysis

As in any RA, the estimated carcinogenic and non-carcinogenic risks contain several sources of uncertainties. However, the general approach used in this RA has been to use conservative assumptions regarding exposure estimates, so that the estimated carcinogenic and non-carcinogenic risks represent an upper bound estimate of the risk. The following sections present the inherent sources of uncertainty and conservative assumptions used in this RA.

8.7.1 Inherent Sources of Uncertainty

The RA process is designed to provide a conservative estimate or evaluation of risks to human health. However, some degree of uncertainty is inherent to the process. Sources of uncertainty typically relate to seven areas:

- Site characterization;
- COPCs;
- Representative concentration;
- Exposure evaluation;
- Toxicity values;
- Physical and chemical properties; and
- Fate and transport parameters and models.

Inherent sources of uncertainty relating to the site characterization include:

- Field sampling location bias (sample locations were biased toward areas of highest contamination) is likely to cause an overestimation of risks.
- No consideration for source depletion, natural degradation, or attenuation of

chemicals over time is considered. This is a conservative approach since the consideration of source depletion, natural degradation, or attenuation in the future would result in lower exposure concentration to future receptors of concern.

Inherent sources of uncertainty relating to the COPCs include:

- Consideration of 19 constituents in groundwater without groundwater screening levels as COPCs which is a conservative approach since the consideration of screening levels may have eliminated these constituents.

Inherent sources of uncertainty relating to the representative concentrations include:

- Use of current concentrations for the future resident and the future construction worker. This overestimates the future risks since the concentrations typically decrease over time due to natural attenuation processes.
- Use of current maximum concentrations for the future resident. The use of maximum concentration is very conservative and overestimates the future risks because (i) the calculation of target levels assumes long-term exposures; and (ii) the models used to develop target levels assume average concentration over the exposure domain and not a single point concentration.

Inherent sources of uncertainty relating to the exposure evaluation include:

- Assumption of frequent, or routine, exposure over prolonged durations, for example, the assumption that a resident stays at the same location for 30 years. This would likely overestimate the risks.
- Assumption that some pathways are negligible in comparison to others (e.g., outdoor inhalation of vapors from groundwater by future resident was not quantitatively evaluated since indoor inhalation of vapors from groundwater was evaluated). This would likely underestimate the cumulative risk.

Inherent sources of uncertainty relating to the toxicity values include:

- Use of reference dose and slope factor derived by conservative methods. For example, animal testing is typically performed at very high doses and the information is used to extrapolate to humans. To compensate for lack of sufficient and detailed information regarding the human toxicity of these chemicals, USEPA typically makes substantial conservative assumptions that result in very conservative quantitative toxicity values (slope factor and reference dose) of these COPCs.
- Chemicals without toxicity values. For example, indoor inhalation of vapors from groundwater by the resident was not evaluated for sec-butylbenzene, tert-butylbenzene, p-isopropyltoluene, and 2-methylnaphthalane. However, these chemicals were detected only in one or two groundwater samples. Therefore,

the underestimation of risks may not be significant.

- The above first and second sources associated with toxicity values may not estimate the true health effects of COPCs. However, typically the toxicity values are based on very conservative assumptions that result in an overestimate of the risks.

Inherent sources of uncertainty relating to the physical and chemical properties include:

- Derivation of physical and chemical properties based on a single chemical which does not consider the effects of the presence of multiple chemicals. This would overestimate the risks because the presence of multiple chemicals reduces volatility and solubility.

Inherent sources of uncertainty relating to the fate and transport parameters and models include:

- Assumption of an infinite non-depleting source which is conservative.

8.7.2 Overall Impact of Uncertainties

As discussed above, there are numerous sources of uncertainty in the parameters used to calculate the potential risks. The above discussion indicates that the risks have been estimated using generally conservative assumptions for most of sources; therefore, overall the risks have been overestimated.

9 CONCLUSIONS AND RECOMMENDATIONS

Approximately 1,882.5 cubic yards of PCS was excavated and remediated from three SWMU 123 PCS excavations which were conducted between 1995 and 2006. In 1995 and 1997, 50 CY and 132.5 CY of PCS were transported offsite to the Rhino Environmental Services, Inc., land farm facility located north of Newman, New Mexico. In addition, 1,700 CY of PCS was transported to the permitted HAFB FT-31 land farm for treatment in 2008. The confirmation soil samples collected from each excavation provide documentation of the complete removal of soil containing total petroleum hydrocarbons (TPH-GRO, -DRO, and –ORO), VOCs, SVOCs, PCBs, and/or TAL metals in excess of the NMED SSLs (NMED, 2009) and/or the TPH Screening Guidelines (NMED, 2006). Furthermore, a comprehensive human health risk assessment for potential future residents, current commercial/industrial workers, and future construction workers was performed using the soil and groundwater data and is presented in Section 8 of this report.

The risk to human health was calculated for each COPC, for each complete exposure pathway, and for each receptor. The cumulative risk for each receptor (i.e., the sum of risks for all chemicals and for all complete exposure pathways) is compared with target risks. The cumulative risk for each potential receptor was found to be less than the target risk level for each potential receptor. Therefore, the current residual concentration of COPCs in soil and groundwater at SWMUs 122 and 123 are protective of current commercial/industrial workers, future residents (adults and children), and future construction workers.

Based upon the soil and groundwater laboratory analytical results, documentation of excavation and disposal provided, and the site specific human health risk-based evaluation; No Further Action is recommended for the SWMUs 122 and 123 (Building 702 and Building 704 Waste Oil Tanks) at Holloman Air Force Base, NM. NFA for SWMUs 122 and 123 is based upon NMED Closure Criterion #5 which states:

> *"The site was characterized or remediated in accordance with applicable state and/or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use."*

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TABLES

Table 3-1
Groundwater Wells
Located Within a 4-Mile Radius
of Holloman Air Force Base
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Well ID Number	Use	NAD 83 UTM (in meters)		Well Depth (ft)
		X	Y	
T 00078	Commercial	398468	3648755	428
T 00868	Domestic	400972	3650377	215
T 03794	Irrigation	403280	3651057	250
T 04855	Domestic	403784	3651965	235
T 04967	Domestic	403480	3652067	200
T 00518	Domestic	405819	3646323	305
T 00518 S	Domestic	405819	3646323	220
T 00614	Domestic	404503	3646838	245
T 00995	Domestic	405824	3646730	308
T 01868	Domestic	405824	3646730	280
T 02650	Domestic	405619	3646523	265
T 03230	Domestic	403699	3647252	160
T 04728	Domestic	404503	3646838	216
T 05079 POD1	Domestic	401365	3646757	406
T 01167	Livestock	404993	3644302	170
T 01235	Irrigation	404995	3644706	200
T 03062	Commercial	403678	3644412	295
T 03455	Domestic	403365	3644318	150
T 03483	Domestic	402565	3644318	140
T 03934	Commercial	403578	3644915	160
T 05201 POD1	Irrigation	403380	3644374	295
T 05202 POD1	Irrigation	403381	3644374	250
T 00146	Livestock	402960	3642700	110
T 03245	Commercial	406609	3643887	190
T 04228	Domestic	405295	3643589	180
T 04386 S-6	Commercial	404903	3640666	290
T 04386 S-9	Commercial	404895	3640673	320
T 00172 S	Irrigation	406088	3640755	125
T 00776	Irrigation	406391	3640650	120
T 00782	Domestic	406187	3640854	120
T 00818	Irrigation	406391	3640650	125
T 02431	Domestic	405987	3640654	152
T 03909	Livestock	404765	3639453	140
T 04386 S	Commercial	404886	3638830	290
T 04386 S-2	Commercial	404888	3638830	310
T 04386 S-3	Commercial	404886	3638837	300
T 04386 S-4	Commercial	404886	3638841	295
T 04386 S-5	Commercial	404903	3640661	310
T 03147	Domestic	406380	3638633	135
T 04080	Domestic	406481	3638734	170
T 03228	Domestic	404290	3637226	160
T 00347	Domestic	403131	3634704	182
T 00972	Domestic	404882	3636009	150
T 01602	Domestic	406510	3635592	135
T 05041 POD1	Domestic	406205	3635697	200
T 01012	Commercial	401072	3634316	72
T 01277	Commercial	404434	3633172	104
T 01327	Commercial	400958	3633604	90
T 01526	Commercial	401368	3633601	152
T 01623	Domestic	400743	3633202	260

Source: New Mexico Water Rights Reporting System Database, 2009

Table 3-2
Survey Data and Groundwater Elevation Summary (July 2009)
SWMU 122 and 123 RCRA Facility Investigation Report
Holloman Air Force Base, New Mexico

Well	Northing (NAD 83)	Easting (NAD 83)	TOC Elevation (ft above msl)	DTW from TOC (ft below TOC)	Groundwater Elevation July 13, 2009 (ft above msl)
SWMU122-MW01	673494.320	1695132.690	4,090.34	10.92	4,079.42
SWMU122-MW02	673350.675	1695107.650	4,088.62	9.98	4,078.64
SWMU122-MW03	673344.918	1695214.572	4,088.51	9.64	4,078.87
SWMU122-MW04	673392.621	1695256.519	4,088.45	9.69	4,078.76
SWMU122-MW05	673436.213	1695287.773	4,089.29	10.29	4,079.00
SWMU122-MW06	673221.546	1695153.709	4,088.01	9.89	4,078.12
SWMU122-MW07	673255.268	1695242.537	4,088.02	9.93	4,078.09
SWMU122-MW08	673243.753	1695393.050	4,088.88	10.96	4,077.92
SWMU122-MW09	673358.077	1695438.286	4,089.68	11.58	4,078.10
SWMU122-MW10	672978.916	1695201.413	4,086.05	7.79	4,078.26
SWMU122-MW11	673058.696	1695444.866	4,086.99	9.61	4,077.38
SWMU122-MW12	673195.227	1695550.965	4,088.67	11.40	4,077.27
SWMU123-MW3	NA	NA	NA	10.61	NA
SWMU123-MW4	673525.040	1695214.572	4,090.44	11.14	4,079.30
SWMU123-MW5	673494.609	1695267.211	4,089.77	10.56	4,079.21

Notes:
NAD 83 = North American Datum 1983
TOC = Top of Casing
DTW = Depth to Water
ft = feet
msl = mean sea level
NA = Not Available (Unable to obtain top of casing elevation due to canopy interference with global positioning system.)

Table 5-1
Summary of Soil Boring Locations and Sample Intervals
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Soil Boring Number	Location	Northing (NAD 83)	Easting (NAD 83)	Total Depth (ft)	Sample Depths for Analysis (ft bgs)	Laboratory Analysis
SWMU122-DP01	SWMU 122 (WOT Source Area)	673500.931	1695116.161	12	4-5, 9.5-10.5	VOCs, SVOCs, TPH, PCBs, TAL Metals
SWMU122-DP02	SWMU 122 (WOT Source Area)	673516.083	1695124.426	12	4-5, 9-10	VOCs, SVOCs, TPH, PCBs, TAL Metals
SWMU122-DP03	SWMU 122 (WOT Source Area)	673508.369	1695134.619	12	4-5, 9-10	VOCs, SVOCs, TPH, PCBs, TAL Metals
SWMU122-DP04	SWMU 122 (WOT Source Area)	673494.320	1695132.690	18	4-5, 9-10	VOCs, SVOCs, TPH, PCBs, TAL Metals
SWMU122-DP05	SWMU 122 (Geotechnical)	673523.246	1695195.226	10	3-4, 7-8	MC, DBD, SG, FOC

Notes:
WOT = Waste Oil Tank
NAD 83 = North American Datum 1983
VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons (Gasoline Range Organics, Diesel Range Organics, and Oil Range Organics)
PCBs = Polychlorinated Biphenyls
TAL = Target Analyte List
MC = Moisture Content
DBD = Dry Bulk Density
SG = Specific Gravity
FOC = Fractional Organic Carbon
ft bgs = feet below ground surface

Table 5-2
Monitoring Well Construction Details
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Well Identification	Installation Date	Sampled 2009	Diameter (inches)	Screen Interval (ft bgs)	Depth to Water (ft below TOC)	Total depth (feet)	Status
SWMU123-MW1	8/15/2004	NS	2	8.0 - 18.0	NM	18.0	Active
SWMU123-MW3	8/16/2004	1	2	8.0 - 18.0	10.61	18.0	Active
SWMU123-MW4	8/16/2004	1	2	8.0 - 18.0	11.14	18.0	Active
SWMU123-MW5	8/15/2004	1	2	8.0 - 18.0	10.56	18.0	Active
SWMU122-MW01	7/9/2009	1	1	7.75 - 17.75	10.92	18.0	Active
SWMU122-MW02	7/9/2009	1	1	7.75 - 17.75	9.98	18.0	Active
SWMU122-MW03	7/10/2009	1	1	7.75 - 17.75	9.64	18.0	Active
SWMU122-MW04	7/10/2009	1	1	7.75 - 17.75	9.69	18.0	Active
SWMU122-MW05	7/10/2009	1	1	7.75 - 17.75	10.29	18.0	Active
SWMU122-MW06	7/9/2009	1	1	7.75 - 17.75	9.89	18.0	Active
SWMU122-MW07	7/8/2009	1	1	7.75 - 17.75	9.93	18.0	Active
SWMU122-MW08	7/8/2009	1	1	7.75 - 17.75	10.96	18.0	Active
SWMU122-MW09	7/8/2009	1	1	7.75 - 17.75	11.58	18.0	Active
SWMU122-MW10	7/7/2009	1	1	8.75 - 18.75	7.79	19.0	Active
SWMU122-MW11	7/7/2009	1	1	7.75 - 17.75	9.61	18.0	Active
SWMU122-MW12	7/7/2009	1	1	7.75 - 17.75	11.40	18.0	Active

Notes:
ft bgs = Feet below ground surface
ft below TOC = Feet below top of casing (based on July 13, 2009, groundwater elevation)
NS = Not Sampled
NM = Not Measured

Table 7-1
Soil Analytical Results (July 2009)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Client Sample Identification:	Soil Screening Levels	Basewide Background Levels		SWMU122-DP01-5			SWMU122-DP01-10.5			SWMU122-DP02-5			SWMU122-DP02-10			SWMU122-DP03-5			SWMU122-DP03-10			SWMU122-DP04-5			SWMU122-DP04-10			SWMU122-DP04-10-A		
Lab Sample Identification:	NMED Residential[1]	NMED Approved Background Level [2]	Combined Soil UTL[3]	F66564-2			F66564-1			F66564-3			F66564-4			F66564-5			F66564-6			F66564-7			F66564-8			F66564-9		
Date Sampled:				7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009		
Analyte (Method)				Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1
Volatile Organic Compounds (8260B)	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**		
Methylene chloride	199	NV	NV	6.0	J		8.8	J		12.2	J		7.5	U		7.0	U		5.5	U		6.4	U		6.5	J	J	7.1	J	J
Semi-Volatile Organic Compounds (8270C)	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**		
All SVOCs	NV	NV	NV	ND			ND			ND			ND			ND			ND			ND			ND			ND		
Total Petroleum Hydrocarbons (8015 M)	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**		
Gasoline Range Organics (C6-C10)	880 [5]	NV	NV	3.3	U		5.4	U		5.6	U		5.3	U		4.4	U		3.4	U		4.3	U		3.2	U		4.3	U	
Diesel Range Organics (C10-C22)	880 [5]	NV	NV	5.9	U		7.2	U		7.5	U		8.1	U		7.1	U		6.3	U		6.5	U		6.2	U		7.0	U	
Oil Range Organics (>C22-C36)	880 [5]	NV	NV	5.9	U		7.2	U		7.5	U		8.1	U		7.1	U		6.3	U		6.5	U		6.2	U		7.0	U	
PCBs (8082)	**mg/kg**	**mg/kg**	**mg/kg**	**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**		
All PCBs	NV	NV	NV	ND			ND			ND			ND			ND			ND			ND			ND			ND		
TAL Metals Analysis (6010B / 7471A)	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**		
Aluminum	78,100	13,722	13,722.27	5,670			2,770			2,370			13,100			1,860			10,800			3,820			7,640			8,390		
Arsenic	3.9	3.7	3.66	2.0			2.5	U		2.7	U		**6.3**			2.6	J		**5.8**			2.4	J		3.0	J	J	**7.5**		J
Barium	15,600	169.3	169.25	52.3			24.3			35.8	J		55.9			25.1	J		60.7			38.3	J		75.6		J	139		J
Beryllium	156	1.6	1.53	0.25	J		0.14	U		0.60	U		0.76			0.54	U		0.61	J		0.50	U		0.48	U		0.56	U	
Cadmium	77.9	0.3	0.28	0.059	U		0.070	U		0.30	U		0.19	J		0.27	U		0.24	U		0.25	U		0.24	U		0.28	U	
Calcium	NV [6]	317,332	317,331.59	82,800		J	224,000		J	227,000		J	178,000		J	240,000		J	188,000		J	201,000		J	155,000		J	115,000		J
Chromium	219	25	24.95	5.3		J	2.5			2.2	J		12.4		J	1.4	J		10.9			3.4			8.0			8.6		
Cobalt	23 [7]	7.7	7.70	1.9	J		0.58	J		1.1	J		4.6		J	1.1	J		4.1	J		1.3	J		2.0	J	J	3.4	J	J
Copper	3,130	13	12.96	4.1			1.8			3.6	J		6.3			1.4	J		5.8	J		2.6	J		3.2	J	J	5.3	J	J
Iron	54,800	23,049	23,049.48	4,210		J	1,890		J	1,760		J	9,480		J	1,290		J	9,190		J	2,730		J	6,590		J	8,490		J
Lead	400	10.9	10.87	2.7	J		3.1	U		3.4	U		6.4	J		3.1	U		5.6	J		2.8	U		3.5	J		4.4	J	
Magnesium	NV [6]	16,991	16,990.65	5,250		J	1,790		J	4,150		J	18,000		J	2,100		J	18,600		J	3,660		J	5,220		J	12,400		J
Manganese	10,700	393	393.47	66.6		J	27.0		J	38.4		J	150		J	25.9		J	105		J	39.5		J	71.4		J	105		J
Nickel	1,560	17.4	17.34	3.7			1.6	J		2.0	J		10.3			2.2	J		9.7			2.9	J		5.7	J		7.5	J	
Potassium	NV [6]	5,077	5,077.12	2,240			1,350			1,140	J		4,440			854	J		3,470			1,570	J		2,540			2,760	J	
Selenium	391	1.4	1.4	1.9	J		4.5	J		4.8	J		3.4	J		7.3	J		5.2	J		6.1	J		3.5	J		2.5	J	
Sodium	NV [6]	5,196	5,195.97	1,160			186	J		862	J		988			272	J		559	J		224	J		228	J		230	U	
Vanadium	391	42.6	42.53	11.7		J	5.2		J	6.3	J		23.2		J	6.1	J		22.0		J	8.5	J	J	15.4		J	27.4		J
Zinc	23,500	54.6	54.53	12.9		J	5.2			6.4			27.9		J	3.9	J		25.8			7.9			17.3			19.3		
General Chemistry (2540B)	**%**	**%**	**%**	**%**			**%**			**%**			**%**			**%**			**%**			**%**			**%**			**%**		
Solids, Percent	NV	NV	NV	84.3			68.7			66.6			61.6			70.6			78.9			76.7			81.1			70.5		

Notes:
NMED = New Mexico Environment Department
UTL = Upper Tolerance Limit
TAL = Target Analyte List
SVOCs = Semi-Volatile Organic Compounds
PCBs = Polychlorinated Biphenyls
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
% = percent
ND = All compounds not detected
NV = No Value
Q = Laboratory Qualifier
Q1 = Validating Chemist Qualifier
Qualifiers
U = Not detected
J = Indicates an estimated value
Client Sample Nomenclature
SWMU122 = Solid Waste Management Unit 122
DP = Direct Push
A = Denotes a duplicate sample
Final digit(s) equal the sample interval depth below ground surface

[1] NMED, December 2009. *Technical Background Document for Development of Soil Screening Levels (SSLs), Revision 5.0*.
[2] Table 1, *Conditional Approval Letter, Basewide Background Study Report, Holloman Air Force Base, New Mexico* (NMED, December 2011)
[3] Table 5-18, Basewide Background Study Report, Holloman Air Force Base, New Mexico (NationView/Bhate JV III, July 2011)
[4] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[5] NMED TPH Screening Guidelines for Diesel #2/Crankcase Oil, Residential Direct Exposure, Table 2b (October 2006)
[6] No Value established for NMED Residential SSL (December 2009) and USEPA RSL (November 2011)
[7] USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (November 2011)
Bold value indicates analytes above NMED SSLs (Rev 5.0, December 2009) and the NMED Approved Background Levels (NMED, December 2011)
Indicates analytical results above the NMED Approved Background Level, but below the NMED Residential SSL (or no SSL established)

Table 7-2
Soil Geotechnical Results (July 2009)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample Identification	Method	Unit	SWMU122-DP05-4	SWMU122-DP05-8	Average
Depth (ft bgs)			2-4	6-8	
Date sampled			7/9/2009	7/9/2009	
Parameter					
Bulk Density (Dry Basis)	ASTM D2937-94 M	g/mL	1.0	1.2	1.100
Fractional Organic Carbon	ASTM D2974-87	%	6.4	6.2	6.300
Moisture Content (Solids, Percent)	SM19 2540B M	%	84	89.5	86.750
Specific Gravity	ASTM 1429		1.5	1.6	1.550

Notes:
ASTM - American Society for Testing and Materials
SM - Standard Method
ft bgs - Feet below ground surface
g/mL - grams per milliliter
% - percent
SWMU122 = Solid Waste Management Unit 122
DP = Direct Push
Final digit(s) equal the sample interval in feet below ground surface

Table 7-3
Groundwater Analytical Results (July 2009)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Client Sample Identification:	Groundwater Screening Levels		Basewide Background Levels		SWMU123-MW3			SWMU123-MW3-A			SWMU123-MW4			SWMU 123-MW5			SWMU 123-MW5 [8]			SWMU 122-MW01			SWMU 122-MW02			SWMU 122-MW03			SWMU 122-MW04			SWMU 122-MW05		
Lab Sample Identification:	NMWQCC[1]	USEPA MCL [2]	NMED Approved Background Levels (Dissolved Constituents)[3]	Dissolved Metals in Groundwater UTL [4]	F66528-1			F66528-2			F66528-3			F66494-1			F66494-1R			F66653-5			F66653-2			F66653-3			F66653-1			F66678-1		
Date Sampled:					7/7/2009			7/7/2009			7/8/2009			7/7/2009			7/7/2009			7/13/2009			7/14/2009			7/14/2009			7/14/2009			7/14/2009		
Analyte					Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1
Volatile Organic Compounds (8260B)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
Acetone	NV	NV	NV	NV	10	U		10	U		10	U		10	U		NA			12.8	J	J	10	U		10	U		10	U		10	U	
Acrolein	NV	NV	NV	NV	14.3	J		5.0	U		5.0	U		5.0	U		NA			5.0	U	UJ	5.0	U		5.0	U		5.0	U		5.0	U	
Acrylonitrile	NV	NV	NV	NV	2.0	U		2.0	U		2.0	U		2.0	U		NA			2.0	U	UJ	2.0	U		2.0	U		2.0	U		2.0	U	
Benzene	10	5	NV	NV	0.40	U		0.40	U		0.40	U		0.40	U		NA			0.40	U	UJ	0.40	U		0.40	U		0.40	U		0.40	U	
sec-Butylbenzene	NV	NV	NV	NV	0.25	J		0.25	U		0.25	U		0.25	U		NA			0.25	U	UJ	0.25	U		0.25	U		0.25	U		0.25	U	
tert-Butylbenzene	NV	NV	NV	NV	0.85	J		0.84	J		0.32	U		0.32	U		NA			0.32	U	UJ	0.32	U		0.32	U		0.32	U		0.32	U	
Chloroform	100	NV	NV	NV	0.28	U		0.28	U		0.67	J		0.28	U		NA			1.6		J	0.28	U		0.28	U		0.50	J		0.29	J	
Carbon disulfide	NV	NV	NV	NV	0.40	U		0.40	U		0.40	U		0.40	U		NA			0.40	U	UJ	0.40	U		0.40	U		0.40	U		0.40	U	
Ethylbenzene	750	700	NV	NV	0.43	U		0.43	U		0.43	U		0.43	U		NA			0.43	U	UJ	0.43	U		0.43	U		0.43	U		0.43	U	
Hexane	NV	NV	NV	NV	0.50	U		0.50	U		0.50	U		0.50	U		NA			0.50	U	UJ	0.50	U		0.50	U		0.50	U		0.50	U	
Isopropylbenzene	NV	NV	NV	NV	0.50	J		0.48	J		0.20	U		0.20	U		NA			0.20	U	UJ	0.20	U		0.20	U		0.20	U		0.20	U	
p-Isopropyltoluene	NV	NV	NV	NV	0.32	U		0.32	U		0.32	U		0.32	U		NA			0.32	U	UJ	0.32	U		0.32	U		0.32	U		0.32	U	
Methylene chloride	100	5	NV	NV	1.0	U		1.0	U		1.0	U		1.0	U		NA			1.0	U	UJ	1.2	J		1.0	U		1.0	U		1.0	U	
Methyl ethyl ketone	NV	NV	NV	NV	2.0	U		2.0	U		2.0	U		2.0	U		NA			2.0	U	UJ	2.0	U		2.0	U		2.0	U		2.0	U	
Naphthalene	30	NV	NV	NV	1.0	U		1.0	U		1.0	U		1.0	U		NA			1.0	U	UJ	1.0	U		1.0	U		1.0	U		1.0	U	
n-Propylbenzene	NV	NV	NV	NV	0.25	U		0.25	U		0.25	U		0.25	U		NA			0.25	U	UJ	0.25	U		0.25	U		0.25	U		0.25	U	
1,2,4-Trimethylbenzene	NV	NV	NV	NV	0.22	U		0.22	U		0.22	U		0.22	U		NA			0.22	U	UJ	0.22	U		0.22	U		0.22	U		0.22	U	
1,3,5-Trimethylbenzene	NV	NV	NV	NV	0.20	U		0.20	U		0.20	U		0.20	U		NA			0.20	U	UJ	0.20	U		0.20	U		0.20	U		0.20	U	
Toluene	750	1,000	NV	NV	0.35	U		0.35	U		0.35	U		0.35	U		NA			0.35	U	UJ	0.35	U		0.35	U		0.35	U		0.35	U	
m,p-Xylene	620 [11]	10,000 [12]	NV	NV	0.78	U		0.78	U		0.78	U		0.78	U		NA			0.78	U	UJ	0.78	U		0.78	U		0.78	U		0.78	U	
o-Xylene	620 [11]	10,000 [12]	NV	NV	0.37	U		0.37	U		0.37	U		0.37	U		NA			0.37	U	UJ	0.37	U		0.37	U		0.37	U		0.37	U	
Semi-Volatile Organic Compounds (8270C)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
2,4-Dimethylphenol	NV	NV	NV	NV	1.3	U		1.2	U		1.2	U		1.2	U		NA			1.2	U		1.2	U		1.2	U		1.2	U		1.2	U	
Benzyl Alcohol	NV	NV	NV	NV	1.0	U		1.0	U		1.0	U		1.0	U		NA			1.0	U		1.0	U		1.0	U		0.96	U		0.96	U	
Di-n-butyl phthalate	NV	NV	NV	NV	1.0	U		1.0	U		1.0	U		1.0	U		NA			1.0	U		1.0	U		1.0	U		1.1	J		2.1	J	
Diethyl phthalate	NV	NV	NV	NV	2.1	U		2.1	U		2.0	U		2.0	U		NA			2.1	J		2.0	U		4.8	J		4.0	J		5.8		
bis(2-Ethylhexyl)phthalate	NV	NV	NV	NV	2.9	J		2.1	U		2.0	U		2.0	U		NA			2.0	U		2.0	U		2.0	U		1.9	U		1.9	U	
2-Methylnaphthalene	NV	NV	NV	NV	1.0	U		1.0	U		1.0	U		1.0	U		NA			1.0	U		1.0	U		1.0	U		0.96	U		0.96	U	
Naphthalene	NV	NV	NV	NV	1.0	U		1.0	U		1.0	U		1.0	U		NA			1.0	U		1.0	U		1.0	U		0.96	U		0.96	U	
Total Petroleum Hydrocarbons (8015 M)	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L		
Gasoline Range Organics (C6-C10)	30.4 [6]	NV	NV	NV	0.0772	J		0.0823	J		0.050	U		NA			0.050	U	UJ	0.050	U		0.050	U		0.050	U		0.050	U		0.050	U	
Diesel Range Organics (C10-C22)	30.4 [6]	NV	NV	NV	**37.0**		J	0.548		J	0.10	U		0.10	U		NA			0.096	U		0.096	U		0.130	J		0.096	U		0.125	J	
Oil Range Organics (>C22-C36)	30.4 [6]	NV	NV	NV	4.0	U		0.149	J		0.10	U		0.10	U		NA			0.096	U		0.096	U		0.096	U		0.096	U		0.096	U	
PCBs (8082)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
All PCBs	1	0.5	NV	NV	ND			ND			ND			ND			NA			ND			ND			ND			ND			ND		
TAL Metals Analysis (6010B / 7470A)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
Aluminum	5,000	50 [7]	54	54	55	U		55	U		55	U		11	U		NA			25.8	J		11	U		11	U		11.4	J		14.1	J	
Arsenic	100	10	10	28.53	27	U		27	U		**29.0**	J		**17.3**			NA			**10.7**		J	**12.9**		J	**11.8**	J	J	6.0	J	J	6.6	J	J
Barium	1,000	2,000	30.2	30.13	25	U		25	U		25	U		15.0	J		NA			27.5	J		17.5	J		37.0	J		33.3	J		35.9	J	
Calcium	NV	NV	1,151,302	1,151,301.20	572,000			638,000			633,000			491,000		J	NA			468,000		J	485,000		J	571,000		J	464,000		J	454,000		J
Chromium	50	100	2.5	2.5	10	U		10	U		10	U		2.0	U		NA			2.0	U		2.0	U		2.0	U		2.0	U		2.0	U	
Cobalt	50	NV	2.6	2.6	5.0	U		5.0	U		5.0	U		1.0	U		NA			1.6	J	J	1.0	U	UJ	5.4	J	J	3.1	J	J	1.9	J	
Copper	1,000	1,300	22	57.46	25	U		25	U		25	U		5.0	U		NA			5.0	U		5.0	U		5.0	U		5.0	U		5.0	U	
Iron	1,000	300 [7]	65.6	65.56	120	U		120	U		2,400	U		23	U		NA			**784**			23	U		32.3	J		**1,210**		J	23	U	
Lead	50	15	9	9	10	U		10	U		10	U		2.0	U		NA			2.0	U		2.0	U		5.1	J		2.0	U		2.0	U	
Magnesium	NV	NV	3,630,927	3,630,926.70	135,000			150,000			413,000			323,000			NA			244,000			261,000			188,000			252,000			337,000		
Manganese	200	50 [7]	50	118.65	**569**			**666**			5.0	U		1.0	U		NA			**472**			**80.1**			**2,490**			**1,150**			**1,040**		
Nickel	200	NV	15.9	15.89	12	U		12	U		12	U		2.3	J		NA			8.5	J		4.1	J		19.2	J		17.2	J		14.5	J	
Potassium	NV	NV	120,480	120,479.98	10,500	J	J	11,600	J	J	38,700	J	J	29,200		J	NA			29,600		J	33,300		J	17,800		J	27,400		J	38,100		J
Selenium	50	50	25.3	25.26	17	U		17	U		26.5	J		28.8			NA			15.5			15.7			13.5	J		12.0			16.2		
Silver	50	100 [7]	10	10	7.0	U		7.0	U		7.0	U		1.4	U		NA			1.4	U		1.4	U		1.4	U		1.4	U		1.4	U	
Sodium	NV	NV	19,972,499	19,972,499.00	114,000			128,000			758,000			816,000			NA			251,000		J	374,000		J	145,000		J	600,000		J	937,000		
Thallium	NV	2	2	15	18	U		18	U		18	U		3.6	U		NA			3.6	U		3.6	U		3.6	U		3.6	U		**4.2**	J	
Vanadium	NV	NV	73.8	73.73	4.5	U		4.5	U		85.7	J		143			NA			17.8	J		39.3	J		51.4		J	9.3	J		15.0	J	
Zinc	10,000	5,000 [7]	23	56.28	37	U		37	U		37	U		7.4	U		NA			13.6	J		7.4	U		10.4	J		13.0	J		14.0	J	
General Chemistry (2540B)	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L		
Solids, Total Dissolved	1,000	500 [7]	NV	65,956.58 [10]	**4,570**		J	**3,830**		J	**5,190**		J	**7,430**		J	NA			**3,890**			**4,990**			**1,750**			**3,690**			**6,210**		J

Notes:

NMWQCC = New Mexico Water Quality Control Commission
USEPA = United States Environmental Protection Agency
MCL = Maximum Contaminant Level
NMED = New Mexico Environment Department
UTL = Upper Tolerance Limit
PCB = Polychlorinated Biphenyls
TAL = Target Analyte List
µg/L = micrograms per liter
mg/L = milligrams per liter
NA = Not Analyzed
ND = Not Detected (All PCBs)
NV = No Value
Q = Laboratory Qualifier
Q1 = Validating Chemist Qualifier

Qaulifiers
U = Not detected
J = Indicates an estimated value
UJ = Estimated not detected

Client Sample Nomenclature
SWMU122 = Solid Waste Management Unit 122
SWMU123 = Solid Waste Management Unit 123
MW = Monitoring Well
A = Field Duplicate Sample

[1] Standards for Groundwater, if 10,000 mg/L TDS Concentration or Less, New Mexico Administrative Code 20.6.2.3103
[2] USEPA National Primary Drinking Water Regulations MCLs (816-F-09-004, May 2009)
[3] Table 3, *Conditional Approval Letter, Basewide Background Study Report, Holloman Air Force Base, New Mexico* (NMED, December 2011)
[4] Table 5-18, Basewide Background Study Report, Holloman Air Force Base, New Mexico (NationView|Bhate JV III, July 2011)
[5] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[6] NMED TPH Screening Guidelines for Diesel #2/Crankcase oil, Concentration in groundwater, Table 2b (October 2006)
[7] USEPA Secondary Drinking Water Standard
[8] GRO re-analysis due to laboratory error
[9] Due to poor recharge, two samples were collected, over a two day period
[10] Value established in the Basewide Background Study Report, HAFB, New Mexico (NationView/Bhate JV III, July 2011) and derived from the Total Groundwater UTL
[11] NMWQCC groundwater satandard for total xylenes
[12] USEPA MCL for total xylenes

Bold value indicates analytes above the New Mexico Groundwater Quality Standards, the USEPA MCLs, or the NMED TPH Screening Guidelines
Indicates combined o-xylene and m,p-xylene analytical results above the New Mexico Groundwater Quality Standard for Total xylene (NMAC 30.6.2.3103).
Indicates analytical results above the NMED Approved Background Levels, but below the New Mexico Groundwater Quality Standard, USEPA MCL, or no action level established

Table 7-3
Groundwater Analytical Results (July 2009)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Client Sample Identification:	Groundwater Screening Levels		Basewide Background Levels		SWMU122-MW06			SWMU 122-MW07			SWMU 122-MW08			SWMU 122-MW09			SWMU122-MW10			SWMU122-MW10-A			SWMU122-MW11			SWMU122-MW11 [9]			SWMU122-MW12			SWMU122-MW12 [9]		
Lab Sample Identification:	NMWQCC[1]	USEPA MCL [2]	NMED Approved Background Levels (Dissolved Constituents)[3]	Dissolved Metals in Groundwater UTL [4]	F66619-1			F66653-4			F66653-6			F66678-2			F66576-1			F66576-2			F66604-1			F66604-2			F66604-3			F66604-4		
Date Sampled:					7/13/2009			7/13/2009			7/13/2009			7/14/2009			7/9/2009			7/9/2009			7/9/2009			7/10/2009			7/9/2009			7/10/2009		
Analyte					Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1
Volatile Organic Compounds (8260B)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
Acetone	NV	NV	NV	NV	10	U		10	U		10	U		85.5	J		10	U		10	U		16.0	J		NA			10.9	J		NA		
Acrolein	NV	NV	NV	NV	5.0	U	UJ	5.0	U		5.0	U		25	U		5.0	U		5.0	U		5.0	U		NA			5.0	U		NA		
Acrylonitrile	NV	NV	NV	NV	2.0	U		2.0	U		2.0	U		36.0	J		2.0	U		2.0	U		2.0	U		NA			2.0	U		NA		
Benzene	10	5	NV	NV	0.40	U		0.40	U		0.40	U		3.5	J		0.40	U		0.40	U		0.40	U		NA			0.40	U		NA		
sec-Butylbenzene	NV	NV	NV	NV	0.25	U		0.25	U		0.25	U		3.2	J		0.25	U		0.25	U		0.25	U		NA			0.25	U		NA		
tert-Butylbenzene	NV	NV	NV	NV	0.32	U		0.32	U		0.32	U		1.6	U		0.32	U		0.32	U		0.32	U		NA			0.32	U		NA		
Chloroform	100	NV	NV	NV	0.45	J		0.28	U		0.28	U		2.0	J		0.28	U		0.28	U		0.28	U		NA			0.28	U		NA		
Carbon disulfide	NV	NV	NV	NV	0.40	U		0.40	U		0.40	U		5.6	J		0.40	U		0.40	U		0.40	U		NA			0.40	U		NA		
Ethylbenzene	750	700	NV	NV	0.43	U		0.43	U		0.43	U		157			0.43	U		0.43	U		0.43	U		NA			0.43	U		NA		
Hexane	NV	NV	NV	NV	0.50	U		0.50	U		0.50	U		3.0	J	J	0.50	U		0.50	U		0.50	U		NA			0.50	U		NA		
Isopropylbenzene	NV	NV	NV	NV	0.20	U		0.20	U		0.20	U		14.8			0.20	U		0.20	U		0.20	U		NA			0.20	U		NA		
p-Isopropyltoluene	NV	NV	NV	NV	0.32	U		0.32	U		0.32	U		3.8	J		0.32	U		0.32	U		0.32	U		NA			0.32	U		NA		
Methylene chloride	100	5	NV	NV	1.0	U		1.0	U		1.0	U		5.0	U		1.0	U		1.0	U		1.0	U		NA			1.0	U		NA		
Methyl ethyl ketone	NV	NV	NV	NV	2.0	U		2.0	U		2.0	U		33.0			2.0	U		2.0	U		6.5			NA			3.1	J		NA		
Naphthalene	30	NV	NV	NV	1.0	U		1.0	U		1.0	U		13.3	J		1.0	U		1.0	U		1.0	U		NA			1.0	U		NA		
n-Propylbenzene	NV	NV	NV	NV	0.25	U		0.25	U		0.25	U		15.4			0.25	U		0.25	U		0.25	U		NA			0.25	U		NA		
1,2,4-Trimethylbenzene	NV	NV	NV	NV	0.22	U		0.22	U		0.22	U		125			0.22	U		0.22	U		0.22	U		NA			0.22	U		NA		
1,3,5-Trimethylbenzene	NV	NV	NV	NV	0.20	U		0.20	U		0.20	U		56.8			0.20	U		0.20	U		0.20	U		NA			0.20	U		NA		
Toluene	750	1,000	NV	NV	0.35	U		0.35	U		0.35	U		373			0.35	U		0.35	U		0.49	J		NA			0.35	U		NA		
m,p-Xylene	620 [11]	10,000 [12]	NV	NV	0.78	U		0.78	U		0.78	U		**465**			0.78	U		0.78	U		0.78	U		NA			0.78	U		NA		
o-Xylene	620 [11]	10,000 [12]	NV	NV	0.37	U		0.37	U		0.37	U		**260**			0.37	U		0.37	U		0.37	U		NA			0.37	U		NA		
Semi-Volatile Organic Compounds (8270C)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
2,4-Dimethylphenol	NV	NV	NV	NV	1.1	U		1.2	U		1.2	U		6.8			1.2	U		1.2	U		NA			1.1	U		NA			1.1	U	
Benzyl Alcohol	NV	NV	NV	NV	0.95	U		0.96	U		0.96	U		1.0	J		0.98	U		1.0	U		NA			0.95	U		NA			0.95	U	
Di-n-butyl phthalate	NV	NV	NV	NV	0.95	U		0.96	U		0.96	U		0.96	U		0.98	U		1.0	U		NA			0.95	U		NA			0.95	U	
Diethyl phthalate	NV	NV	NV	NV	1.9	U		2.9	J		1.9	U		1.9	U		2.1	J		2.0	U		NA			1.9	U		NA			1.9	U	
bis(2-Ethylhexyl)phthalate	NV	NV	NV	NV	1.9	U		1.9	U		1.9	U		1.9	U		2.0	U		2.0	U		NA			2.9	J		NA			1.9	U	
2-Methylnaphthalene	NV	NV	NV	NV	0.95	U		0.96	U		0.96	U		5.6			0.98	U		1.0	U		NA			0.95	U		NA			0.95	U	
Naphthalene	NV	NV	NV	NV	0.95	U		0.96	U		0.96	U		6.3			0.98	U		1.0	U		NA			0.95	U		NA			0.95	U	
Total Petroleum Hydrocarbons (8015 M)	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L		
Gasoline Range Organics (C6-C10)	30.4 [6]	NV	NV	NV	0.050	U		0.050	U		0.050	U		4.10			0.050	U		0.050	U		0.050	U		NA			0.050	U		NA		
Diesel Range Organics (C10-C22)	30.4 [6]	NV	NV	NV	0.095	U		0.096	U		0.096	U		0.466			0.10	U		0.108	J		NA			0.336			0.356			NA		
Oil Range Organics (>C22-C36)	30.4 [6]	NV	NV	NV	0.095	U		0.096	U		0.096	U		0.096	U		0.10	U		0.111	J		NA			0.298			0.479			NA		
PCBs (8082)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
All PCBs	1	0.5	NV	NV	ND			ND			ND			ND			ND			ND			NA			ND			NA			ND		
TAL Metals Analysis (6010B / 7470A)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L			µg/L		
Aluminum	5,000	50 [7]	54	54	19.7	J		15.4	J		11	U		13.5	J		26.2	J		22.5	J		NA			24.4	J		NA			20.8	J	
Arsenic	100	10	10	28.53	**12.4**			7.8	J	J	**17.1**		J	**19.8**		J	11	U		11	U		NA			6.9	J		NA			7.7	J	
Barium	1,000	2,000	30.2	30.13	34.4	J		54.8	J		26.8	J		19.0	J		34.6	J		34.7	J		NA			68.4	J		NA			49.7	J	
Calcium	NV	NV	1,151,302	1,151,301.20	460,000		J	477,000		J	447,000		J	443,000		J	598,000		J	618,000		J	NA			454,000		J	NA			430,000		J
Chromium	50	100	2.5	2.5	2.0	U		2.0	U		3.4	J		2.0	U		2.0	U		2.0	U		NA			2.0	U		NA			2.0	U	
Cobalt	50	NV	2.6	2.6	1.0	U		5.1	J	UJ	1.0	U	UJ	1.3	J		1.0	U		1.0	U		NA			2.7	J		NA			8.0	J	
Copper	1,000	1,300	22	57.46	5.0	U		5.0	U		5.0	U		5.0	U		5.0	U		5.0	U		NA			26.4	J		NA			20	U	
Iron	1,000	300 [7]	65.6	65.56	23	U		**526**			23	U		245	J		23	U		23	U		NA			23	U		NA			**13,600**		
Lead	50	15	9	9	2.0	U		2.0	U		2.0	U		2.0	U		4.0	U		4.0	U		NA			2.0	U		NA			2.0	U	
Magnesium	NV	NV	3,630,927	3,630,926.70	353,000			297,000			336,000			399,000			18,300			18,400			NA			385,000			NA			496,000		
Manganese	200	50 [7]	50	118.65	**106**			**726**			44.4			**1,100**			44.4			44.8			NA			**616**			NA			**624**		
Nickel	200	NV	15.9	15.89	7.4	J		31.4	J		4.8	J		7.0	J		2.3	U		2.3	U		NA			36.8	J		NA			23.3	J	
Potassium	NV	NV	120,480	120,479.98	55,100		J	28,800		J	57,200		J	22,100		J	6,820	J	J	6,920	J	J	NA			73,000		J	NA			68,600		J
Selenium	50	50	25.3	25.26	15.0	J		14.4			10.1			19.7			16.9	J		20.7			NA			10.4	J		NA			23.9		
Silver	50	100 [7]	10	10	1.4	U		1.4	U		1.4	U		1.4	U		1.4	U		1.4	U		NA			1.4	J		NA			1.4	U	
Sodium	NV	NV	19,972,499	19,972,499.00	1,190,000		J	604,000		J	597,000		J	1,510,000			13,300			13,600			NA			1,120,000		J	NA			3,470,000		J
Thallium	NV	2	2	15	3.6	U		3.6	U		3.6	U		**4.0**	J		3.6	U		3.6	U		NA			3.6	U		NA			3.6	U	
Vanadium	NV	NV	73.8	73.73	51.5			15.4	J		56.0		J	43.8	J		61.6			61.7			NA			10	J		NA			2.8	J	
Zinc	10,000	5,000 [7]	23	56.28	8.4	J		14.6	J		10.4	J		7.4	U		7.4	U		7.4	U		NA			73.4			NA			22.0		
General Chemistry (2540B)	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L			mg/L		
Solids, Total Dissolved	1,000	500 [7]	NV	65,956.58 [10]	**10,900**			**5,320**			**6,450**			**8,130**		J	**5,600**		J	**3,520**		J	NA			**9,710**			**23,000**			NA		

Notes:

NMWQCC = New Mexico Water Quality Control Commission
USEPA = United States Environmental Protection Agency
MCL = Maximum Contaminant Level
NMED = New Mexico Environment Department
UTL = Upper Tolerance Limit
PCB = Polychlorinated Biphenyls
TAL = Target Analyte List
µg/L = micrograms per liter
mg/L = milligrams per liter
NA = Not Analyzed
ND = Not Detected (All PCBs)
NV = No Value
Q = Laboratory Qualifier
Q1 = Validating Chemist Qualifier

Qaulifiers
U = Not detected
J = Indicates an estimated value
UJ = Estimated not detected

Client Sample Nomenclature
SWMU122 = Solid Waste Management Unit 122
SWMU123 = Solid Waste Management Unit 123
MW = Monitoring Well
A = Field Duplicate Sample

[1] Standards for Groundwater, if 10,000 mg/L TDS Concentration or Less, New Mexico Administrative Code 20.6.2.3103
[2] USEPA National Primary Drinking Water Regulations MCLs (816-F-09-004, May 2009)
[3] Table 3, *Conditional Approval Letter, Basewide Background Study Report, Holloman Air Force Base, New Mexico* (NMED, December 2011)
[4] Table 5-18, Basewide Background Study Report, Holloman Air Force Base, New Mexico (NationView|Bhate JV III, July 2011)
[5] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[6] NMED TPH Screening Guidelines for Diesel #2/Crankcase oil, Concentration in groundwater, Table 2b (October 2006)
[7] USEPA Secondary Drinking Water Standard
[8] GRO re-analysis due to laboratory error
[9] Due to poor recharge, two samples were collected, over a two day period
[10] Value established in the Basewide Background Study Report, HAFB, New Mexico (NationView/Bhate JV III, July 2011) and derived from the Total Groundwater UTL
[11] NMWQCC groundwater satandard for total xyxlenes
[12] USEPA MCL for total xylenes

Bold value indicates analytes above the New Mexico Groundwater Quality Standards, the USEPA MCLs, or the NMED TPH Screening Guidelines
Indicates combined o-xylene and m,p-xylene analytical results above the New Mexico Groundwater Quality Standard for Total xylene (NMAC 30.6.2.3103).
Indicates analytical results above the NMED Approved Background Levels, but below the New Mexico Groundwater Quality Standard, USEPA MCL, or no action level established

Table 8-1(a)
Comprehensive Soil Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFBase, New Mexico

Sample ID	SWMU123-SW02	SWMU123-SW03	SWMU123-SW04	SWMU123-SW05	SWMU123-SW06-OE	SWMU123-SW07	SWMU123-SW08
Sample Depth (ft bgs)	**6**	**6**	**6**	**6**	**11 - 12**	**5 - 7**	**4 - 5**
Date Sampled	**10/13/2005**	**10/13/2005**	**10/13/2005**	**10/13/2005**	**1/9/2006**	**12/19/2005**	**12/19/2005**
VOCs (mg/kg)							
Acetone	<0.062	<0.062	<0.057	<0.063	<0.059	<0.068	<0.074
Benzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
n-Butylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
sec-Butylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
Chloroform	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
Ethylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
Ethyl methacrylate	<0.031	<0.031	<0.028	<0.031	<0.03	<0.034	<0.037
Hexane	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
Isopropylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
p-Isopropyltoluene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
Methylene chloride	<0.012	<0.012	<0.011	<0.013	<0.012	<0.014	<0.015
Naphthalene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
n-Propylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
1,2,4-Trimethylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
1,3,5-Trimethylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
Toluene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
m,p-Xylene	<0.012	<0.012	<0.011	<0.013	<0.012	<0.014	<0.015
o-Xylene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074
SVOCs (mg/kg)							
Benzo(g,h,i)perylene	<0.22	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2
Dibenzofuran	<0.22	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2
Diethyl phthalate	**1.51**	<0.43	<0.39	<0.43	<0.44	<0.42	<0.41
bis(2-Ethylhexyl)phthalate	<0.44	<0.43	<0.39	<0.43	<0.44	**0.974**	<0.41
Fluorene	**0.0532 J**	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2
Indeno(1,2,3-cd)pyrene	<0.22	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2
2-Methylnaphthalene	**0.292**	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2
Naphthalene	**0.0509 J**	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2
TPHs (mg/kg)							
TPH-GRO (C6-C10)	<7.8	<8.3	<6.8	<7.3	**14.9**	<10	<160
TPH-DRO (>C10-C22)	<11	<11	<9.8	<11	**17.2**	<51	<10
TPH-ORO (>C22-C36)	<11	<11	<9.8	<11	**16.6**	**296**	**13**
Metals (mg/kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA

Table 8-1(a)
Comprehensive Soil Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFBase, New Mexico

Sample ID	SWMU123-SW02	SWMU123-SW03	SWMU123-SW04	SWMU123-SW05	SWMU123-SW06-OE	SWMU123-SW07	SWMU123-SW08
Sample Depth (ft bgs)	**6**	**6**	**6**	**6**	**11 - 12**	**5 - 7**	**4 - 5**
Date Sampled	**10/13/2005**	**10/13/2005**	**10/13/2005**	**10/13/2005**	**1/9/2006**	**12/19/2005**	**12/19/2005**
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA

Notes:

A = Duplicate sample

FD = Duplicte sample

ft bgs = Feet below ground surface

J = Estimated value

mg/kg = Milligrams per kilogram

NA = Not analyzed

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-1(a)
Comprehensive Soil Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFBase, New Mexico

Sample ID	SWMU123-SW08-OE	SWMU123-SW09	SWMU123-SW09-FD	SWMU123-SW010	SWMU123-SW011	SWMU123-SW012	SWMU123-SW013
Sample Depth (ft bgs)	**11 - 12**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**
Date Sampled	**1/9/2006**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**
VOCs (mg/kg)							
Acetone	**0.0384 J**	<0.055	<0.057	**0.0537 J**	**0.0372 J**	<0.062	<0.07
Benzene	<0.0055	<0.0055	<0.0057	**0.0549**	**0.0143**	**0.0055 J**	<0.007
n-Butylbenzene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
sec-Butylbenzene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
Chloroform	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
Ethylbenzene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
Ethyl methacrylate	<0.027	<0.028	<0.029	<0.033	<0.032	<0.031	<0.035
Hexane	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
Isopropylbenzene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
p-Isopropyltoluene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
Methylene chloride	<0.011	<0.011	<0.011	<0.013	<0.013	<0.012	<0.014
Naphthalene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
n-Propylbenzene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
1,2,4-Trimethylbenzene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
1,3,5-Trimethylbenzene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
Toluene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	**0.0049 J**	<0.007
m,p-Xylene	<0.011	<0.011	<0.011	<0.013	<0.013	**0.0065 J**	<0.014
o-Xylene	<0.0055	<0.0055	<0.0057	<0.0066	<0.0064	<0.0062	<0.007
SVOCs (mg/kg)							
Benzo(g,h,i)perylene	<0.2	<0.21	<0.21	<0.22	<0.23	<0.23	<0.22
Dibenzofuran	<0.2	<0.21	<0.21	<0.22	<0.23	<0.23	<0.22
Diethyl phthalate	<0.39	<0.41	<0.42	<0.45	<0.46	<0.45	<0.44
bis(2-Ethylhexyl)phthalate	<0.39	<0.41	<0.42	<0.45	<0.46	<0.45	<0.44
Fluorene	<0.2	<0.21	<0.21	<0.22	<0.23	<0.23	<0.22
Indeno(1,2,3-cd)pyrene	<0.2	<0.21	<0.21	<0.22	<0.23	<0.23	<0.22
2-Methylnaphthalene	**0.0736 J**	<0.21	<0.21	<0.22	<0.23	<0.23	<0.22
Naphthalene	**0.106 J**	<0.21	<0.21	<0.22	<0.23	<0.23	<0.22
TPHs (mg/kg)							
TPH-GRO (C6-C10)	<6.4	<7	<140	<180	<8.4	<8.5	<8.2
TPH-DRO (>C10-C22)	<9.9	<10	<11	<11	<11	<11	<11
TPH-ORO (>C22-C36)	**17.9**	**7.53 J**	<11	**9.7 J**	<11	**9.04 J**	<11
Metals (mg/kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA

Table 8-1(a)
Comprehensive Soil Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFBase, New Mexico

Sample ID	SWMU123-SW08-OE	SWMU123-SW09	SWMU123-SW09-FD	SWMU123-SW010	SWMU123-SW011	SWMU123-SW012	SWMU123-SW013
Sample Depth (ft bgs)	**11 - 12**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**
Date Sampled	**1/9/2006**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA

Notes:

A = Duplicate sample

FD = Duplicte sample

ft bgs = Feet below ground surface

J = Estimated value

mg/kg = Milligrams per kilogram

NA = Not analyzed

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-1(a)
Comprehensive Soil Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFBase, New Mexico

Sample ID	SWMU123-SW014	SWMU123-SW15	SWMU123-SW16	SWMU123-BOTTOM1	SWMU123-BOTTOM2	SWMU123-BOTTOM-03	SWMU123-BOTTOM-04	SWMU122-DP01-5
Sample Depth (ft bgs)	**9 - 11**	**9 - 11**	**9 - 11**	**11 - 13**	**11 - 13**	**11 - 12**	**11 - 12**	**5**
Date Sampled	**12/19/2005**	**1/11/2006**	**1/11/2006**	**10/27/2005**	**10/27/2005**	**1/9/2006**	**1/9/2006**	**7/9/2009**
VOCs (mg/kg)								
Acetone	**0.0444 J**	<0.054	<0.064	<0.07	<0.056	**0.0826**	<3.3	<0.058
Benzene	<0.0067	<0.0054	<0.0064	<0.007	**0.0575**	**0.0233**	<0.33	<0.0058
n-Butylbenzene	**0.0123**	<0.0054	<0.0064	<0.007	<0.0056	**0.0329**	**0.47**	<0.0058
sec-Butylbenzene	**0.0578**	<0.0054	<0.0064	<0.007	**0.0039 J**	**0.0449**	**1.38**	<0.0058
Chloroform	<0.0067	<0.0054	<0.0064	<0.007	<0.0056	**0.0077**	<0.33	<0.0058
Ethylbenzene	**0.0113**	<0.0054	<0.0064	**0.0227**	**0.033**	**0.203 J**	**2.54**	<0.0058
Ethyl methacrylate	<0.033	<0.027	<0.032	<0.035	**0.0061 J**	**0.0324**	<1.6	NA
Hexane	<0.0067	<0.0054	<0.0064	<0.007	<0.0056	**0.0446 J**	<0.33	<0.0058
Isopropylbenzene	**0.0197**	<0.0054	<0.0064	**0.0047 J**	**0.006**	**0.0758**	**1.41**	<0.0058
p-Isopropyltoluene	<0.0067	<0.0054	<0.0064	<0.007	**0.0037 J**	**0.0309**	**0.408**	<0.0058
Methylene chloride	<0.013	<0.011	<0.013	<0.014	<0.011	<0.011	<0.66	**0.006 J**
Naphthalene	<0.0067	<0.0054	<0.0064	<0.007	<0.0056	**0.034**	**0.952**	<0.0058
n-Propylbenzene	**0.0218**	<0.0054	<0.0064	**0.0052 J**	**0.0036 J**	**0.087**	**2.67**	<0.0058
1,2,4-Trimethylbenzene	<0.0067	<0.0054	<0.0064	**0.0148**	**0.023**	**0.327**	**3.21**	<0.0058
1,3,5-Trimethylbenzene	<0.0067	<0.0054	<0.0064	**0.0043 J**	**0.0145**	**0.112**	**0.886**	<0.0058
Toluene	<0.0067	<0.0054	<0.0064	<0.007	**0.159**	**0.238 J**	**0.234 J**	<0.0058
m,p-Xylene	<0.013	<0.011	<0.013	**0.0209**	**0.0583**	**0.353**	**0.829**	<0.012
o-Xylene	<0.0067	<0.0054	<0.0064	<0.007	**0.0408**	**0.155**	**0.366**	<0.0058
SVOCs (mg/kg)								
Benzo(g,h,i)perylene	<0.23	<0.2	<0.19	<0.22	**0.257**	<0.2	<0.21	<0.19
Dibenzofuran	**0.0492 J**	<0.2	<0.19	<0.22	<0.22	<0.2	<0.21	<0.19
Diethyl phthalate	<0.46	<0.39	<0.38	<0.45	<0.44	<0.39	<0.41	<0.39
bis(2-Ethylhexyl)phthalate	<0.46	<0.39	<0.38	<0.45	<0.44	<0.39	<0.41	<0.39
Fluorene	<0.23	<0.2	<0.19	<0.22	<0.22	<0.2	<0.21	<0.19
Indeno(1,2,3-cd)pyrene	<0.23	<0.2	<0.19	<0.22	**0.0949 J**	<0.2	<0.21	<0.19
2-Methylnaphthalene	**0.0478 J**	<0.2	<0.19	<0.22	<0.22	**0.876**	**0.0423 J**	<0.19
Naphthalene	<0.23	<0.2	<0.19	<0.22	<0.22	**2.31**	<0.21	<0.19
TPHs (mg/kg)								
TPH-GRO (C6-C10)	**67.3**	<7.2	<6.8	<8.8	**13.3**	**21.4**	**203**	<6.5
TPH-DRO (>C10-C22)	**57.6**	<10	<9.8	<11	**7.13 J**	**21**	**10.1**	<9.8
TPH-ORO (>C22-C36)	**15.6**	<10	<9.8	<11	**19.2**	**18.4**	**7.57 J**	<9.8
Metals (mg/kg)								
Aluminum	NA	NA	NA	NA	NA	NA	NA	**5,670**
Arsenic	NA	NA	NA	NA	NA	NA	NA	**2**
Barium	NA	NA	NA	NA	NA	NA	NA	**52.3**
Beryllium	NA	NA	NA	NA	NA	NA	NA	**0.25 J**
Cadmium	NA	NA	NA	NA	NA	NA	NA	<0.23
Calcium	NA	NA	NA	NA	NA	NA	NA	**82,800**
Chromium	NA	NA	NA	NA	NA	NA	NA	**5.3**
Cobalt	NA	NA	NA	NA	NA	NA	NA	**1.9 J**
Copper	NA	NA	NA	NA	NA	NA	NA	**4.1**
Iron	NA	NA	NA	NA	NA	NA	NA	**4,210**
Lead	NA	NA	NA	NA	NA	NA	NA	**2.7 J**

Table 8-1(a)
Comprehensive Soil Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFBase, New Mexico

Sample ID	SWMU123-SW014	SWMU123-SW15	SWMU123-SW16	SWMU123-BOTTOM1	SWMU123-BOTTOM2	SWMU123-BOTTOM-03	SWMU123-BOTTOM-04	SWMU122-DP01-5
Sample Depth (ft bgs)	**9 - 11**	**9 - 11**	**9 - 11**	**11 - 13**	**11 - 13**	**11 - 12**	**11 - 12**	**5**
Date Sampled	**12/19/2005**	**1/11/2006**	**1/11/2006**	**10/27/2005**	**10/27/2005**	**1/9/2006**	**1/9/2006**	**7/9/2009**
Magnesium	NA	NA	NA	NA	NA	NA	NA	**5,250**
Manganese	NA	NA	NA	NA	NA	NA	NA	**66.6**
Nickel	NA	NA	NA	NA	NA	NA	NA	**3.7**
Potassium	NA	NA	NA	NA	NA	NA	NA	**2,240**
Selenium	NA	NA	NA	NA	NA	NA	NA	**1.9 J**
Sodium	NA	NA	NA	NA	NA	NA	NA	**1,160**
Vanadium	NA	NA	NA	NA	NA	NA	NA	**11.7**
Zinc	NA	NA	NA	NA	NA	NA	NA	**12.9**

Notes:

A = Duplicate sample

FD = Duplicte sample

ft bgs = Feet below ground surface

J = Estimated value

mg/kg = Milligrams per kilogram

NA = Not analyzed

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-1(a)
Comprehensive Soil Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFBase, New Mexico

Sample ID	SWMU122-DP01-10.5	SWMU122-DP02-5	SWMU122-DP02-10	SWMU122-DP03-5	SWMU122-DP03-10	SWMU122-DP04-5	SWMU122-DP04-10	SWMU122-DP04-10-A
Sample Depth (ft bgs)	**10.5**	**5**	**10**	**5**	**10**	**5**	**10**	**10**
Date Sampled	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**
VOCs (mg/kg)								
Acetone	<0.068	<0.079	<0.075	<0.07	<0.055	<0.064	<0.055	<0.062
Benzene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
n-Butylbenzene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
sec-Butylbenzene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
Chloroform	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
Ethylbenzene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
Ethyl methacrylate	NA	NA	NA	NA	NA	NA	NA	NA
Hexane	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
Isopropylbenzene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
p-Isopropyltoluene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
Methylene chloride	**0.0088 J**	**0.0122 J**	<0.015	<0.014	<0.011	<0.013	**0.0065 J**	**0.0071 J**
Naphthalene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
n-Propylbenzene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
1,2,4-Trimethylbenzene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
1,3,5-Trimethylbenzene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
Toluene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
m,p-Xylene	<0.014	<0.016	<0.015	<0.014	<0.011	<0.013	<0.011	<0.012
o-Xylene	<0.0068	<0.0079	<0.0075	<0.007	<0.0055	<0.0064	<0.0055	<0.0062
SVOCs (mg/kg)								
Benzo(g,h,i)perylene	<0.25	<0.25	<0.27	<0.24	<0.21	<0.22	<0.2	<0.23
Dibenzofuran	<0.25	<0.25	<0.27	<0.24	<0.21	<0.22	<0.2	<0.23
Diethyl phthalate	<0.49	<0.5	<0.54	<0.47	<0.42	<0.44	<0.4	<0.47
bis(2-Ethylhexyl)phthalate	<0.49	<0.5	<0.54	<0.47	<0.42	<0.44	<0.4	<0.47
Fluorene	<0.25	<0.25	<0.27	<0.24	<0.21	<0.22	<0.2	<0.23
Indeno(1,2,3-cd)pyrene	<0.25	<0.25	<0.27	<0.24	<0.21	<0.22	<0.2	<0.23
2-Methylnaphthalene	<0.25	<0.25	<0.27	<0.24	<0.21	<0.22	<0.2	<0.23
Naphthalene	<0.25	<0.25	<0.27	<0.24	<0.21	<0.22	<0.2	<0.23
TPHs (mg/kg)								
TPH-GRO (C6-C10)	<11	<11	<11	<8.8	<6.9	<8.5	<6.5	<8.6
TPH-DRO (>C10-C22)	<12	<13	<14	<12	<11	<11	<10	<12
TPH-ORO (>C22-C36)	<12	<13	<14	<12	<11	<11	<10	<12
Metals (mg/kg)								
Aluminum	**2,770**	**2,370**	**13,100**	**1,860**	**10,800**	**3,820**	**7,640**	**8,390**
Arsenic	<5.6	<6	**6.3**	**2.6 J**	**5.8**	**2.4 J**	**3.0 J**	**7.5**
Barium	**24.3**	**35.8 J**	**55.9**	**25.1 J**	**60.7**	**38.3 J**	**75.6**	**139**
Beryllium	<0.35	<1.5	**0.76**	<1.4	**0.61 J**	<1.3	<1.2	<1.4
Cadmium	<0.28	<1.2	**0.19 J**	<1.1	<0.97	<1	<0.97	<1.1
Calcium	**224,000**	**227,000**	**178,000**	**240,000**	**188,000**	**201,000**	**155,000**	**115,000**
Chromium	**2.5**	**2.2 J**	**12.4**	**1.4 J**	**10.9**	**3.4**	**8**	**8.6**
Cobalt	**0.58 J**	**1.1 J**	**4.6**	**1.1 J**	**4.1 J**	**1.3 J**	**2.0 J**	**3.4 J**
Copper	**1.8**	**3.6 J**	**6.3**	**1.4 J**	**5.8 J**	**2.6 J**	**3.2 J**	**5.3 J**
Iron	**1,890**	**1,760**	**9,480**	**1,290**	**9,190**	**2,730**	**6,590**	**8,490**
Lead	<70	<75	**6.4 J**	<68	**5.6 J**	<63	**3.5 J**	**4.4 J**

Table 8-1(a)
Comprehensive Soil Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFBase, New Mexico

Sample ID	SWMU122-DP01-10.5	SWMU122-DP02-5	SWMU122-DP02-10	SWMU122-DP03-5	SWMU122-DP03-10	SWMU122-DP04-5	SWMU122-DP04-10	SWMU122-DP04-10-A
Sample Depth (ft bgs)	**10.5**	**5**	**10**	**5**	**10**	**5**	**10**	**10**
Date Sampled	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**
Magnesium	**1,790**	**4,150**	**18,000**	**2,100**	**18,600**	**3,660**	**5,220**	**12,400**
Manganese	**27**	**38.4**	**150**	**25.9**	**105**	**39.5**	**71.4**	**105**
Nickel	**1.6 J**	**2.0 J**	**10.3**	**2.2 J**	**9.7**	**2.9 J**	**5.7 J**	**7.5 J**
Potassium	**1,350**	**1,140 J**	**4,440**	**854 J**	**3,470**	**1,570 J**	**2,540**	**2,760 J**
Selenium	**4.5 J**	**4.8 J**	**3.4 J**	**7.3 J**	**5.2 J**	**6.1 J**	**3.5 J**	**2.5 J**
Sodium	**186 J**	**862 J**	**988**	**272 J**	**559 J**	**224 J**	**228 J**	<2,800
Vanadium	**5.2**	**6.3 J**	**23.2**	**6.1 J**	**22**	**8.5 J**	**15.4**	**27.4**
Zinc	**5.2**	**6.4**	**27.9**	**3.9 J**	**25.8**	**7.9**	**17.3**	**19.3**

Notes:

A = Duplicate sample

FD = Duplicte sample

ft bgs = Feet below ground surface

J = Estimated value

mg/kg = Milligrams per kilogram

NA = Not analyzed

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-1(b)
Soil Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-SW02	SWMU123-SW03	SWMU123-SW04	SWMU123-SW05	SWMU123-SW06-OE	SWMU123-SW07	SWMU123-SW08	SWMU123-SW08-OE
Sample Depth (ft bgs)	**6**	**6**	**6**	**6**	**11 - 12**	**5 - 7**	**4 - 5**	**11 - 12**
Date Sampled	**10/13/2005**	**10/13/2005**	**10/13/2005**	**10/13/2005**	**1/9/2006**	**12/19/2005**	**12/19/2005**	**1/9/2006**
VOCs (mg/kg)								
Acetone	<0.062	<0.062	<0.057	<0.063	<0.059	<0.068	<0.074	**0.0384**
Benzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
n-Butylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
sec-Butylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
Chloroform	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
Ethylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
Ethyl methacrylate	<0.031	<0.031	<0.028	<0.031	<0.03	<0.034	<0.037	<0.027
Hexane	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
Isopropylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
p-Isopropyltoluene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
Methylene chloride	<0.012	<0.012	<0.011	<0.013	<0.012	<0.014	<0.015	<0.011
Naphthalene	**0.027**	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	**0.054375**
n-Propylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
1,2,4-Trimethylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
1,3,5-Trimethylbenzene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
Toluene	<0.0062	<0.0062	<0.0057	<0.0063	<0.0059	<0.0068	<0.0074	<0.0055
Xylenes	<0.0182	<0.0182	<0.0167	<0.0193	<0.0179	<0.0208	<0.0224	<0.0165
SVOCs (mg/kg)								
Benzo(g,h,i)perylene	<0.22	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2	<0.2
Dibenzofuran	<0.22	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2	<0.2
Diethyl phthalate	**1.51**	<0.43	<0.39	<0.43	<0.44	<0.42	<0.41	<0.39
bis(2-Ethylhexyl)phthalate	<0.44	<0.43	<0.39	<0.43	<0.44	**0.974**	<0.41	<0.39
Fluorene	**0.0532**	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2	<0.2
Indeno(1,2,3-cd)pyrene	<0.22	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2	<0.2
2-Methylnaphthalene	**0.292**	<0.22	<0.2	<0.22	<0.22	<0.21	<0.2	**0.0736**
TPHs (mg/kg)								
TPHs (>C10-C36)	<22	<22	<19.6	<22	**33.8**	**321.5**	**18**	**22.85**
Metals (mg/kg)								
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA	NA

Table 8-1(b)
Soil Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-SW02	SWMU123-SW03	SWMU123-SW04	SWMU123-SW05	SWMU123-SW06-OE	SWMU123-SW07	SWMU123-SW08	SWMU123-SW08-OE
Sample Depth (ft bgs)	**6**	**6**	**6**	**6**	**11 - 12**	**5 - 7**	**4 - 5**	**11 - 12**
Date Sampled	**10/13/2005**	**10/13/2005**	**10/13/2005**	**10/13/2005**	**1/9/2006**	**12/19/2005**	**12/19/2005**	**1/9/2006**
Nickel	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
NA = Not analyzed

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons
VOCs = Volatile organic compounds
Value in bold = Detected concentration

Table 8-1(b)
Soil Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-SW09 (Average)	SWMU123-SW010	SWMU123-SW011	SWMU123-SW012	SWMU123-SW013	SWMU123-SW014	SWMU123-SW15
Sample Depth (ft bgs)	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**
Date Sampled	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**1/11/2006**
VOCs (mg/kg)							
Acetone	<0.056	**0.0537**	**0.0372**	<0.062	<0.07	**0.0444**	<0.054
Benzene	<0.0056	**0.0549**	**0.0143**	**0.0055**	<0.007	<0.0067	<0.0054
n-Butylbenzene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	**0.0123**	<0.0054
sec-Butylbenzene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	**0.0578**	<0.0054
Chloroform	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	<0.0067	<0.0054
Ethylbenzene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	**0.0113**	<0.0054
Ethyl methacrylate	<0.0285	<0.033	<0.032	<0.031	<0.035	<0.033	<0.027
Hexane	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	<0.0067	<0.0054
Isopropylbenzene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	**0.0197**	<0.0054
p-Isopropyltoluene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	<0.0067	<0.0054
Methylene chloride	<0.011	<0.013	<0.013	<0.012	<0.014	<0.013	<0.011
Naphthalene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	<0.0067	<0.0054
n-Propylbenzene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	**0.0218**	<0.0054
1,2,4-Trimethylbenzene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	<0.0067	<0.0054
1,3,5-Trimethylbenzene	<0.0056	<0.0066	<0.0064	<0.0062	<0.007	<0.0067	<0.0054
Toluene	<0.0056	<0.0066	<0.0064	**0.0049**	<0.007	<0.0067	<0.0054
Xylenes	<0.0166	<0.0196	<0.0194	**0.0096**	<0.021	<0.0197	<0.0164
SVOCs (mg/kg)							
Benzo(g,h,i)perylene	<0.21	<0.22	<0.23	<0.23	<0.22	<0.23	<0.2
Dibenzofuran	<0.21	<0.22	<0.23	<0.23	<0.22	**0.0492**	<0.2
Diethyl phthalate	<0.415	<0.45	<0.46	<0.45	<0.44	<0.46	<0.39
bis(2-Ethylhexyl)phthalate	<0.415	<0.45	<0.46	<0.45	<0.44	<0.46	<0.39
Fluorene	<0.21	<0.22	<0.23	<0.23	<0.22	<0.23	<0.2
Indeno(1,2,3-cd)pyrene	<0.21	<0.22	<0.23	<0.23	<0.22	<0.23	<0.2
2-Methylnaphthalene	<0.21	<0.22	<0.23	<0.23	<0.22	**0.0478**	<0.2
TPHs (mg/kg)							
TPHs (>C10-C36)	**11.765**	**15.2**	<22	**14.54**	<22	**73.2**	<20
Metals (mg/kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA

Table 8-1(b)
Soil Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-SW09 (Average)	SWMU123-SW010	SWMU123-SW011	SWMU123-SW012	SWMU123-SW013	SWMU123-SW014	SWMU123-SW15
Sample Depth (ft bgs)	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**
Date Sampled	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**1/11/2006**
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA

Notes:
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
NA = Not analyzed

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons
VOCs = Volatile organic compounds
Value in bold = Detected concentration

Table 8-1(b)
Soil Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-SW16	SWMU123-BOTTOM1	SWMU123-BOTTOM2	SWMU123-BOTTOM-03	SWMU123-BOTTOM-04	SWMU122-DP01-5	SWMU122-DP01-10.5	SWMU122-DP02-5
Sample Depth (ft bgs)	**9 - 11**	**11 - 13**	**11 - 13**	**11 - 12**	**11 - 12**	**5**	**10.5**	**5**
Date Sampled	**1/11/2006**	**10/27/2005**	**10/27/2005**	**1/9/2006**	**1/9/2006**	**7/9/2009**	**7/9/2009**	**7/9/2009**
VOCs (mg/kg)								
Acetone	<0.064	<0.07	<0.056	**0.0826**	<3.3	<0.058	<0.068	<0.079
Benzene	<0.0064	<0.007	**0.0575**	**0.0233**	<0.33	<0.0058	<0.0068	<0.0079
n-Butylbenzene	<0.0064	<0.007	<0.0056	**0.0329**	**0.47**	<0.0058	<0.0068	<0.0079
sec-Butylbenzene	<0.0064	<0.007	**0.0039**	**0.0449**	**1.38**	<0.0058	<0.0068	<0.0079
Chloroform	<0.0064	<0.007	<0.0056	**0.0077**	<0.33	<0.0058	<0.0068	<0.0079
Ethylbenzene	<0.0064	**0.0227**	**0.033**	**0.203**	**2.54**	<0.0058	<0.0068	<0.0079
Ethyl methacrylate	<0.032	<0.035	**0.0061**	**0.0324**	<1.6	NA	NA	NA
Hexane	<0.0064	<0.007	<0.0056	**0.0446**	<0.33	<0.0058	<0.0068	<0.0079
Isopropylbenzene	<0.0064	**0.0047**	**0.006**	**0.0758**	**1.41**	<0.0058	<0.0068	<0.0079
p-Isopropyltoluene	<0.0064	<0.007	**0.0037**	**0.0309**	**0.408**	<0.0058	<0.0068	<0.0079
Methylene chloride	<0.013	<0.014	<0.011	<0.011	<0.66	**0.006**	**0.0088**	**0.0122**
Naphthalene	<0.0064	<0.007	<0.0056	**1.172**	**0.5285**	<0.0058	<0.0068	<0.0079
n-Propylbenzene	<0.0064	**0.0052**	**0.0036**	**0.087**	**2.67**	<0.0058	<0.0068	<0.0079
1,2,4-Trimethylbenzene	<0.0064	**0.0148**	**0.023**	**0.327**	**3.21**	<0.0058	<0.0068	<0.0079
1,3,5-Trimethylbenzene	<0.0064	**0.0043**	**0.0145**	**0.112**	**0.886**	<0.0058	<0.0068	<0.0079
Toluene	<0.0064	<0.007	**0.159**	**0.238**	**0.234**	<0.0058	<0.0068	<0.0079
Xylenes	<0.0194	**0.0244**	**0.0991**	**0.508**	**1.195**	<0.0178	<0.0208	<0.0239
SVOCs (mg/kg)								
Benzo(g,h,i)perylene	<0.19	<0.22	**0.257**	<0.2	<0.21	<0.19	<0.25	<0.25
Dibenzofuran	<0.19	<0.22	<0.22	<0.2	<0.21	<0.19	<0.25	<0.25
Diethyl phthalate	<0.38	<0.45	<0.44	<0.39	<0.41	<0.39	<0.49	<0.5
bis(2-Ethylhexyl)phthalate	<0.38	<0.45	<0.44	<0.39	<0.41	<0.39	<0.49	<0.5
Fluorene	<0.19	<0.22	<0.22	<0.2	<0.21	<0.19	<0.25	<0.25
Indeno(1,2,3-cd)pyrene	<0.19	<0.22	**0.0949**	<0.2	<0.21	<0.19	<0.25	<0.25
2-Methylnaphthalene	<0.19	<0.22	<0.22	**0.876**	**0.0423**	<0.19	<0.25	<0.25
TPHs (mg/kg)								
TPHs (>C10-C36)	<19.6	<22	**26.33**	**39.4**	**17.67**	<19.6	<24	<26
Metals (mg/kg)								
Aluminum	NA	NA	NA	NA	NA	**5,670**	**2,770**	**2,370**
Arsenic	NA	NA	NA	NA	NA	**2**	<5.6	<6
Barium	NA	NA	NA	NA	NA	**52.3**	**24.3**	**35.8**
Beryllium	NA	NA	NA	NA	NA	**0.25**	<0.35	<1.5
Cadmium	NA	NA	NA	NA	NA	<0.23	<0.28	<1.2
Calcium	NA	NA	NA	NA	NA	**82,800**	**224,000**	**227,000**
Chromium	NA	NA	NA	NA	NA	**5.3**	**2.5**	**2.2**
Cobalt	NA	NA	NA	NA	NA	**1.9**	**0.58**	**1.1**
Copper	NA	NA	NA	NA	NA	**4.1**	**1.8**	**3.6**
Iron	NA	NA	NA	NA	NA	**4,210**	**1,890**	**1,760**
Lead	NA	NA	NA	NA	NA	**2.7**	<70	<75
Magnesium	NA	NA	NA	NA	NA	**5,250**	**1,790**	**4,150**
Manganese	NA	NA	NA	NA	NA	**66.6**	**27**	**38.4**

Table 8-1(b)
Soil Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-SW16	SWMU123-BOTTOM1	SWMU123-BOTTOM2	SWMU123-BOTTOM-03	SWMU123-BOTTOM-04	SWMU122-DP01-5	SWMU122-DP01-10.5	SWMU122-DP02-5
Sample Depth (ft bgs)	**9 - 11**	**11 - 13**	**11 - 13**	**11 - 12**	**11 - 12**	**5**	**10.5**	**5**
Date Sampled	**1/11/2006**	**10/27/2005**	**10/27/2005**	**1/9/2006**	**1/9/2006**	**7/9/2009**	**7/9/2009**	**7/9/2009**
Nickel	NA	NA	NA	NA	NA	**3.7**	**1.6**	**2**
Potassium	NA	NA	NA	NA	NA	**2,240**	**1,350**	**1,140**
Selenium	NA	NA	NA	NA	NA	**1.9**	**4.5**	**4.8**
Sodium	NA	NA	NA	NA	NA	**1,160**	**186**	**862**
Vanadium	NA	NA	NA	NA	NA	**11.7**	**5.2**	**6.3**
Zinc	NA	NA	NA	NA	NA	**12.9**	**5.2**	**6.4**

Notes:
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
NA = Not analyzed

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons
VOCs = Volatile organic compounds
Value in bold = Detected concentration

Table 8-1(b)
Soil Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-DP02-10	SWMU122-DP03-5	SWMU122-DP03-10	SWMU122-DP04-5	SWMU122-DP04-10 (Average)
Sample Depth (ft bgs)	**10**	**5**	**10**	**5**	**10**
Date Sampled	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**
VOCs (mg/kg)					
Acetone	<0.075	<0.07	<0.055	<0.064	<0.0585
Benzene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
n-Butylbenzene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
sec-Butylbenzene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
Chloroform	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
Ethylbenzene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
Ethyl methacrylate	NA	NA	NA	NA	NA
Hexane	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
Isopropylbenzene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
p-Isopropyltoluene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
Methylene chloride	<0.015	<0.014	<0.011	<0.013	**0.0068**
Naphthalene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
n-Propylbenzene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
1,2,4-Trimethylbenzene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
1,3,5-Trimethylbenzene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
Toluene	<0.0075	<0.007	<0.0055	<0.0064	<0.00585
Xylenes	<0.0225	<0.021	<0.0165	<0.0194	<0.01735
SVOCs (mg/kg)					
Benzo(g,h,i)perylene	<0.27	<0.24	<0.21	<0.22	<0.215
Dibenzofuran	<0.27	<0.24	<0.21	<0.22	<0.215
Diethyl phthalate	<0.54	<0.47	<0.42	<0.44	<0.435
bis(2-Ethylhexyl)phthalate	<0.54	<0.47	<0.42	<0.44	<0.435
Fluorene	<0.27	<0.24	<0.21	<0.22	<0.215
Indeno(1,2,3-cd)pyrene	<0.27	<0.24	<0.21	<0.22	<0.215
2-Methylnaphthalene	<0.27	<0.24	<0.21	<0.22	<0.215
TPHs (mg/kg)					
TPHs (>C10-C36)	<28	<24	<22	<22	<22
Metals (mg/kg)					
Aluminum	**13,100**	**1,860**	**10,800**	**3,820**	**8,015**
Arsenic	**6.3**	**2.6**	**5.8**	**2.4**	**5.25**
Barium	**55.9**	**25.1**	**60.7**	**38.3**	**107.3**
Beryllium	**0.76**	<1.4	**0.61**	<1.3	<1.3
Cadmium	**0.19**	<1.1	<0.97	<1	<1.035
Calcium	**178,000**	**240,000**	**188,000**	**201,000**	**135,000**
Chromium	**12.4**	**1.4**	**10.9**	**3.4**	**8.3**
Cobalt	**4.6**	**1.1**	**4.1**	**1.3**	**2.7**
Copper	**6.3**	**1.4**	**5.8**	**2.6**	**4.25**
Iron	**9,480**	**1,290**	**9,190**	**2,730**	**7,540**
Lead	**6.4**	<68	**5.6**	<63	**3.95**
Magnesium	**18,000**	**2,100**	**18,600**	**3,660**	**8,810**
Manganese	**150**	**25.9**	**105**	**39.5**	**88.2**

Table 8-1(b)
Soil Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-DP02-10	SWMU122-DP03-5	SWMU122-DP03-10	SWMU122-DP04-5	SWMU122-DP04-10 (Average)
Sample Depth (ft bgs)	**10**	**5**	**10**	**5**	**10**
Date Sampled	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**
Nickel	**10.3**	**2.2**	**9.7**	**2.9**	**6.6**
Potassium	**4,440**	**854**	**3,470**	**1,570**	**2,650**
Selenium	**3.4**	**7.3**	**5.2**	**6.1**	**3**
Sodium	**988**	**272**	**559**	**224**	**814**
Vanadium	**23.2**	**6.1**	**22**	**8.5**	**21.4**
Zinc	**27.9**	**3.9**	**25.8**	**7.9**	**18.3**

Notes:
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
NA = Not analyzed

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons
VOCs = Volatile organic compounds
Value in bold = Detected concentration

Table 8-1(c)
Summary of Soil Data
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Chemical	Number of Samples	Number of Detects	Detected Concentration		Reporting Limit	
			Maximum	Minimum	Maximum	Minimum
			mg/kg			
VOCs						
Acetone	28	5	0.0826	0.0372	3.3	0.054
Benzene	28	5	0.0575	0.0055	0.33	0.0054
n-Butylbenzene	28	3	0.47	0.0123	0.0079	0.0054
sec-Butylbenzene	28	4	1.38	0.0039	0.0079	0.0054
Chloroform	28	1	0.0077	0.0077	0.33	0.0054
Ethylbenzene	28	5	2.54	0.0113	0.0079	0.0054
Ethyl methacrylate	20	2	0.0324	0.0061	1.6	0.027
Hexane	28	1	0.0446	0.0446	0.33	0.0054
Isopropylbenzene	28	5	1.41	0.0047	0.0079	0.0054
p-Isopropyltoluene	28	3	0.408	0.0037	0.0079	0.0054
Methylene chloride	28	4	0.0122	0.006	0.66	0.011
Naphthalene	28	4	1.172	0.027	0.0079	0.0054
n-Propylbenzene	28	5	2.67	0.0036	0.0079	0.0054
1,2,4-Trimethylbenzene	28	4	3.21	0.0148	0.0079	0.0054
1,3,5-Trimethylbenzene	28	4	0.886	0.0043	0.0079	0.0054
Toluene	28	4	0.238	0.0049	0.0079	0.0054
Xylenes	28	5	1.195	0.0096	0.0239	0.0164
SVOCs						
Benzo(g,h,i)perylene	28	1	0.257	0.257	0.27	0.19
Dibenzofuran	28	1	0.0492	0.0492	0.27	0.19
Diethyl phthalate	28	1	1.51	1.51	0.54	0.38
bis(2-Ethylhexyl)phthalate	28	1	0.974	0.974	0.54	0.38
Fluorene	28	1	0.0532	0.0532	0.27	0.19
Indeno(1,2,3-cd)pyrene	28	1	0.0949	0.0949	0.27	0.19
2-Methylnaphthalene	28	5	0.876	0.0423	0.27	0.19
TPHs						
TPHs (>C10-C36)	28	11	321.5	11.765	28	19.6
Metals						
Aluminum	8	8	13,100	1,860	N/A	N/A
Arsenic	8	6	6.3	2	6	5.6
Barium	8	8	107.3	24.3	N/A	N/A
Beryllium	8	3	0.76	0.25	1.5	0.35
Cadmium	8	1	0.19	0.19	1.2	0.23
Calcium	8	8	240,000	82,800	N/A	N/A
Chromium	8	8	12.4	1.4	N/A	N/A
Cobalt	8	8	4.6	0.58	N/A	N/A
Copper	8	8	6.3	1.4	N/A	N/A
Iron	8	8	9,480	1,290	N/A	N/A
Lead	8	4	6.4	2.7	75	63
Magnesium	8	8	18,600	1,790	N/A	N/A
Manganese	8	8	150	25.9	N/A	N/A
Nickel	8	8	10.3	1.6	N/A	N/A
Potassium	8	8	4,440	854	N/A	N/A
Selenium	8	8	7.3	1.9	N/A	N/A
Sodium	8	8	1,160	186	N/A	N/A
Vanadium	8	8	23.2	5.2	N/A	N/A
Zinc	8	8	27.9	3.9	N/A	N/A

Notes:
mg/kg = Milligrams per kilogram
N/A = Not applicable
PCB = Polychlorinated biphenyl
SVOCs = Semi-volatile organic compounds
TPHs = Total petroleum hydrocarbons
VOCs = Volatile organic compounds

Table 8-1(d)
Comparison of Maximum Detected Concentration of Soil with Screening Levels
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Chemical	Maximum Detected Concentration (mg/kg)	Screening Level		Exceed/Not Exceed	COPC
		mg/kg	Source		
VOCs					
Acetone	0.0826	67,500	1	Not Exceed	No
Benzene	0.0575	15.5	1	Not Exceed	No
n-Butylbenzene	0.47	3,900	2	Not Exceed	No
sec-Butylbenzene	1.38	1,990	5	Not Exceed	No
Chloroform	0.0077	5.72	1	Not Exceed	No
Ethylbenzene	2.54	69.7	1	Not Exceed	No
Ethyl methacrylate	0.0324	7,040	1	Not Exceed	No
Hexane	0.0446	1,250	1	Not Exceed	No
Isopropylbenzene	1.41	3,210	1	Not Exceed	No
p-Isopropyltoluene	0.408	7,820	5	Not Exceed	No
Methylene chloride	0.0122	199	1	Not Exceed	No
Naphthalene	1.172	45	1	Not Exceed	No
n-Propylbenzene	2.67	3,400	2	Not Exceed	No
1,2,4-Trimethylbenzene	3.21	62	2	Not Exceed	No
1,3,5-Trimethylbenzene	0.886	780	2	Not Exceed	No
Toluene	0.238	5,570	1	Not Exceed	No
Xylenes	1.195	1,090	1	Not Exceed	No
SVOCs					
Benzo(g,h,i)perylene	0.257	1,720	5	Not Exceed	No
Dibenzofuran	0.0492	78	2	Not Exceed	No
Diethyl phthalate	1.51	48,900	1	Not Exceed	No
bis(2-Ethylhexyl)phthalate	0.974	347	1	Not Exceed	No
Fluorene	0.0532	2,290	1	Not Exceed	No
Indeno(1,2,3-cd)pyrene	0.0949	6.21	1	Not Exceed	No
2-Methylnaphthalene	0.876	310	2	Not Exceed	No
TPHs					
TPHs (>C10-C36)	321.5	880	3	Not Exceed	No
Metals					
Aluminum	13,100	78,100	1	Not Exceed	No
Arsenic	6.3	3.9	1	**Exceed**	**Yes**
Barium	107.3	15,600	1	Not Exceed	No
Beryllium	0.76	156	1	Not Exceed	No
Cadmium	0.19	77.9	1	Not Exceed	No
Calcium	240,000	317,332	4	Not Exceed	No
Chromium*	12.4	219	1	Not Exceed	No
Cobalt	4.6	7.7	4	Not Exceed	No
Copper	6.3	3,130	1	Not Exceed	No
Iron	9,480	54,800	1	Not Exceed	No
Lead	6.4	400	1	Not Exceed	No
Magnesium	18,600	16,991	4	**Exceed**	**Yes**
Manganese	150	10,700	1	Not Exceed	No
Nickel	10.3	1,560	1	Not Exceed	No
Potassium	4,440	5,077	4	Not Exceed	No
Selenium	7.3	391	1	Not Exceed	No
Sodium	1,160	5,196	4	Not Exceed	No
Vanadium	23.2	391	1	Not Exceed	No
Zinc	27.9	23,500	1	Not Exceed	No

Notes:
COPC = Chemical of potential concern
mg/kg = Milligrams per kilogram
* = Screening level for chromium (VI)
SVOC = Semi-volatile organic compound
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound

Sources:
1 = NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
2 = USEPA, 2011. Regional Screening Level Summary Table November 2011
3 = NMED, 2006. New Mexico Environment Department TPH Screening Guidelines
4 = NMED Approved HAFB Background Levels (NMED, 2011)
5 = Screening levels developed using the methodology for residential scenario in the NMED Technical Background Document for Development of Soil Screening Levels, Revision 5.0 (2009)

Table 8-2(a)
Comprehensive Groundwater Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-MW3	SWMU123-MW3-A	SWMU123-MW4	SWMU123-MW5	SWMU122-MW01	SWMU122-MW02
Date Sampled	**7/7/2009**	**7/7/2009**	**7/8/2009**	**7/7/2009**	**7/13/2009**	**7/14/2009**
VOCs (mg/L)						
Acetone	<0.025	<0.025	<0.025	<0.025	**0.0128 J**	<0.025
Acrolein	**0.0143 J**	<0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	**0.00025 J**	<0.001	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	**0.00085 J**	**0.00084 J**	<0.001	<0.001	<0.001	<0.001
Chloroform	<0.001	<0.001	**0.00067 J**	<0.001	**0.0016**	<0.001
Carbon disulfide	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Hexane	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Isopropylbenzene	**0.0005 J**	**0.00048 J**	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methylene chloride	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0012 J**
Methyl ethyl ketone	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Naphthalene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
n-Propylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,3,5-Trimethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Toluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
m,p-Xylene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
o-Xylene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SVOCs (mg/L)						
2,4-Dimethylphenol	<0.0052	<0.0052	<0.0051	<0.005	<0.005	<0.005
Benzyl Alcohol	<0.0052	<0.0052	<0.0051	<0.005	<0.005	<0.005
Di-n-butyl phthalate	<0.0052	<0.0052	<0.0051	<0.005	<0.005	<0.005
Diethyl phthalate	<0.0052	<0.0052	<0.0051	<0.005	**0.0021 J**	<0.005
bis(2-Ethylhexyl)phthalate	**0.0029 J**	<0.0052	<0.0051	<0.005	<0.005	<0.005
2-Methylnaphthalene	<0.0052	<0.0052	<0.0051	<0.005	<0.005	<0.005
Naphthalene	<0.0052	<0.0052	<0.0051	<0.005	<0.005	<0.005
TPHs (mg/L)						
TPH-GRO (C6-C10)	**0.0772 J**	**0.0823 J**	<0.1	<0.1	<0.1	<0.1
TPH-DRO (>C10-C22)	**37**	**0.548**	<0.25	<0.25	<0.24	<0.24
TPH-ORO (>C22-C36)	<10	**0.149 J**	<0.25	<0.25	<0.24	<0.24
Metals (mg/L)						
Aluminum	<1	<1	<1	<0.2	**0.0258 J**	<0.2
Arsenic	<0.05	<0.05	**0.029 J**	**0.0173**	**0.0107**	**0.0129**
Barium	<1	<1	<1	**0.015 J**	**0.0275 J**	**0.0175 J**
Calcium	**572**	**638**	**633**	**491**	**468**	**485**
Chromium	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01

Table 8-2(a)
Comprehensive Groundwater Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-MW3	SWMU123-MW3-A	SWMU123-MW4	SWMU123-MW5	SWMU122-MW01	SWMU122-MW02
Date Sampled	**7/7/2009**	**7/7/2009**	**7/8/2009**	**7/7/2009**	**7/13/2009**	**7/14/2009**
Cobalt	<0.25	<0.25	<0.25	<0.05	**0.0016 J**	<0.05
Copper	<0.13	<0.13	<0.13	<0.025	<0.025	<0.025
Iron	<1.5	<1.5	<3	<0.3	**0.784**	<0.3
Lead	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01
Magnesium	**135**	**150**	**413**	**323**	**244**	**261**
Manganese	**0.569**	**0.666**	<0.075	<0.015	**0.472**	**0.0801**
Nickel	<0.2	<0.2	<0.2	**0.0023 J**	**0.0085 J**	**0.0041 J**
Potassium	**10.5 J**	**11.6 J**	**38.7 J**	**29.2**	**29.6**	**33.3**
Selenium	<0.05	<0.05	**0.0265 J**	**0.0288**	**0.0155**	**0.0157**
Silver	<0.05	<0.05	<0.05	<0.01	<0.01	<0.01
Sodium	**114**	**128**	**758**	**816**	**251**	**374**
Thallium	<0.05	<0.05	<0.05	<0.02	<0.01	<0.01
Vanadium	<0.25	<0.25	**0.0857 J**	**0.143**	**0.0178 J**	**0.0393 J**
Zinc	<0.1	<0.1	<0.1	<0.02	**0.0136 J**	<0.02

Notes:

A = Duplicate sample

J = Estimated value

mg/L = Milligrams per liter

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-2(a)
Comprehensive Groundwater Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-MW03	SWMU122-MW04	SWMU122-MW05	SWMU122-MW06	SWMU122-MW07	SWMU122-MW08
Date Sampled	**7/14/2009**	**7/14/2009**	**7/14/2009**	**7/13/2009**	**7/13/2009**	**7/13/2009**
VOCs (mg/L)						
Acetone	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Acrolein	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	<0.001	**0.0005 J**	**0.00029 J**	**0.00045 J**	<0.001	<0.001
Carbon disulfide	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Hexane	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Isopropylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methylene chloride	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Methyl ethyl ketone	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Naphthalene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
n-Propylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,3,5-Trimethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Toluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
m,p-Xylene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
o-Xylene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
SVOCs (mg/L)						
2,4-Dimethylphenol	<0.005	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
Benzyl Alcohol	<0.005	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
Di-n-butyl phthalate	<0.005	**0.0011 J**	**0.0021 J**	<0.0048	<0.0048	<0.0048
Diethyl phthalate	**0.0048 J**	**0.004 J**	**0.0058**	<0.0048	**0.0029 J**	<0.0048
bis(2-Ethylhexyl)phthalate	<0.005	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
2-Methylnaphthalene	<0.005	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
Naphthalene	<0.005	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
TPHs (mg/L)						
TPH-GRO (C6-C10)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
TPH-DRO (>C10-C22)	**0.13 J**	<0.24	**0.125 J**	<0.24	<0.24	<0.24
TPH-ORO (>C22-C36)	<0.24	<0.24	<0.24	<0.24	<0.24	<0.24
Metals (mg/L)						
Aluminum	<0.2	**0.0114 J**	**0.0141 J**	**0.0197 J**	**0.0154 J**	<0.2
Arsenic	**0.0118 J**	**0.006 J**	**0.0066 J**	**0.0124**	**0.0078 J**	**0.0171**
Barium	**0.037 J**	**0.0333 J**	**0.0359 J**	**0.0344 J**	**0.0548 J**	**0.0268 J**
Calcium	**571**	**464**	**454**	**460**	**477**	**447**
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01	**0.0034 J**

Table 8-2(a)
Comprehensive Groundwater Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-MW03	SWMU122-MW04	SWMU122-MW05	SWMU122-MW06	SWMU122-MW07	SWMU122-MW08
Date Sampled	7/14/2009	7/14/2009	7/14/2009	7/13/2009	7/13/2009	7/13/2009
Cobalt	**0.0054 J**	**0.0031 J**	**0.0019 J**	<0.05	**0.0051 J**	<0.05
Copper	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Iron	**0.0323 J**	**1.21**	<0.3	<0.3	**0.526**	<0.3
Lead	**0.0051 J**	<0.01	<0.01	<0.005	<0.01	<0.01
Magnesium	**188**	**252**	**337**	**353**	**297**	**336**
Manganese	**2.49**	**1.15**	**1.04**	**0.106**	**0.726**	**0.0444**
Nickel	**0.0192 J**	**0.0172 J**	**0.0145 J**	**0.0074 J**	**0.0314 J**	**0.0048 J**
Potassium	**17.8**	**27.4**	**38.1**	**55.1**	**28.8**	**57.2**
Selenium	**0.0135 J**	**0.012**	**0.0162**	**0.015 J**	**0.0144**	**0.0101**
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	**145**	**600**	**937**	**1190**	**604**	**597**
Thallium	<0.01	<0.01	**0.0042 J**	<0.01	<0.01	<0.01
Vanadium	**0.0514**	**0.0093 J**	**0.015 J**	**0.0515**	**0.0154 J**	**0.056**
Zinc	**0.0104 J**	**0.013 J**	**0.014 J**	**0.0084 J**	**0.0146 J**	**0.0104 J**

Notes:

A = Duplicate sample

J = Estimated value

mg/L = Milligrams per liter

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-2(a)
Comprehensive Groundwater Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-MW09	SWMU122-MW10	SWMU122-MW10-A	SWMU122-MW11	SWMU122-MW12
Date Sampled	7/14/2009	7/9/2009	7/9/2009	7/9/2009	7/9/2009
VOCs (mg/L)					
Acetone	**0.0855 J**	<0.025	<0.025	**0.016 J**	**0.0109 J**
Acrolein	<0.1	<0.02	<0.02	<0.02	<0.02
Acrylonitrile	**0.036 J**	<0.01	<0.01	<0.01	<0.01
Benzene	**0.0035 J**	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	**0.0032 J**	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	<0.005	<0.001	<0.001	<0.001	<0.001
Chloroform	**0.002 J**	<0.001	<0.001	<0.001	<0.001
Carbon disulfide	**0.0056 J**	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	**0.157**	<0.001	<0.001	<0.001	<0.001
Hexane	**0.003 J**	<0.002	<0.002	<0.002	<0.002
Isopropylbenzene	**0.0148**	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	**0.0038 J**	<0.001	<0.001	<0.001	<0.001
Methylene chloride	<0.025	<0.005	<0.005	<0.005	<0.005
Methyl ethyl ketone	**0.033**	<0.005	<0.005	**0.0065**	**0.0031 J**
Naphthalene	**0.0133 J**	<0.005	<0.005	<0.005	<0.005
n-Propylbenzene	**0.0154**	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	**0.125**	<0.002	<0.002	<0.002	<0.002
1,3,5-Trimethylbenzene	**0.0568**	<0.002	<0.002	<0.002	<0.002
Toluene	**0.373**	<0.001	<0.001	**0.00049 J**	<0.001
m,p-Xylene	**0.465**	<0.002	<0.002	<0.002	<0.002
o-Xylene	**0.26**	<0.001	<0.001	<0.001	<0.001
SVOCs (mg/L)					
2,4-Dimethylphenol	**0.0068**	<0.0049	<0.0051	<0.0048	<0.0048
Benzyl Alcohol	**0.001 J**	<0.0049	<0.0051	<0.0048	<0.0048
Di-n-butyl phthalate	<0.0048	<0.0049	<0.0051	<0.0048	<0.0048
Diethyl phthalate	<0.0048	**0.0021 J**	<0.0051	<0.0048	<0.0048
bis(2-Ethylhexyl)phthalate	<0.0048	<0.0049	<0.0051	**0.0029 J**	<0.0048
2-Methylnaphthalene	**0.0056**	<0.0049	<0.0051	<0.0048	<0.0048
Naphthalene	**0.0063**	<0.0049	<0.0051	<0.0048	<0.0048
TPHs (mg/L)					
TPH-GRO (C6-C10)	**4.1**	<0.1	<0.1	<0.1	<0.1
TPH-DRO (>C10-C22)	**0.466**	<0.25	**0.108 J**	**0.336**	**0.356**
TPH-ORO (>C22-C36)	<0.24	<0.25	**0.111 J**	**0.298**	**0.479**
Metals (mg/L)					
Aluminum	**0.0135 J**	**0.0262 J**	**0.0225 J**	**0.0244 J**	**0.0208 J**
Arsenic	**0.0198**	<0.02	<0.02	**0.0069 J**	**0.0077 J**
Barium	**0.019 J**	**0.0346 J**	**0.0347 J**	**0.0684 J**	**0.0497 J**
Calcium	**443**	**598**	**618**	**454**	**430**
Chromium	<0.01	<0.01	<0.01	<0.01	<0.01

Table 8-2(a)
Comprehensive Groundwater Analytical Data for Chemicals with at Least One Detected Concentration
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-MW09	SWMU122-MW10	SWMU122-MW10-A	SWMU122-MW11	SWMU122-MW12
Date Sampled	**7/14/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**
Cobalt	**0.0013 J**	<0.05	<0.05	**0.0027 J**	**0.008 J**
Copper	<0.025	<0.025	<0.025	**0.0264 J**	<0.05
Iron	**0.245 J**	<0.3	<0.3	<0.3	**13.6**
Lead	<0.01	<0.01	<0.01	<0.005	<0.005
Magnesium	**399**	**18.3**	**18.4**	**385**	**496**
Manganese	**1.1**	**0.0444**	**0.0448**	**0.616**	**0.624**
Nickel	**0.007 J**	<0.04	<0.04	**0.0368 J**	**0.0233 J**
Potassium	**22.1**	**6.82 J**	**6.92 J**	**73**	**68.6**
Selenium	**0.0197**	**0.0169 J**	**0.0207**	**0.0104 J**	**0.0239**
Silver	<0.01	<0.01	<0.01	**0.0014 J**	<0.01
Sodium	**1510**	**13.3**	**13.6**	**1120**	**3470**
Thallium	**0.004 J**	<0.01	<0.01	<0.01	<0.01
Vanadium	**0.0438 J**	**0.0616**	**0.0617**	**0.01 J**	**0.0028 J**
Zinc	<0.02	<0.02	<0.02	**0.0734**	**0.022**

Notes:

A = Duplicate sample

J = Estimated value

mg/L = Milligrams per liter

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-2(b)
Groundwater Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-MW3 (Average)	SWMU123-MW4	SWMU123-MW5	SWMU122-MW01	SWMU122-MW02	SWMU122-MW03	SWMU122-MW04	SWMU122-MW05
Date Sampled	**7/7/2009**	**7/8/2009**	**7/7/2009**	**7/13/2009**	**7/14/2009**	**7/14/2009**	**7/14/2009**	**7/14/2009**
VOCs (mg/L)								
Acetone	<0.025	<0.025	<0.025	**0.0128**	<0.025	<0.025	<0.025	<0.025
Acrolein	**0.01215**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
sec-Butylbenzene	**0.000375**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	**0.000845**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chloroform	<0.001	**0.00067**	<0.001	**0.0016**	<0.001	<0.001	**0.0005**	**0.00029**
Carbon disulfide	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Hexane	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Isopropylbenzene	**0.00049**	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methylene chloride	<0.005	<0.005	<0.005	<0.005	**0.0012**	<0.005	<0.005	<0.005
Methyl ethyl ketone	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Naphthalene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
n-Propylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,3,5-Trimethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Toluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Xylenes	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
SVOCs (mg/L)								
2,4-Dimethylphenol	<0.0052	<0.0051	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
Benzyl Alcohol	<0.0052	<0.0051	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
Di-n-butyl phthalate	<0.0052	<0.0051	<0.005	<0.005	<0.005	<0.005	**0.0011**	**0.0021**
Diethyl phthalate	<0.0052	<0.0051	<0.005	**0.0021**	<0.005	**0.0048**	**0.004**	**0.0058**
bis(2-Ethylhexyl)phthalate	**0.00275**	<0.0051	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
2-Methylnaphthalene	<0.0052	<0.0051	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
TPHs (mg/L)								
TPHs (>C10-C36)	**21.3485**	<0.5	<0.5	<0.48	<0.48	**0.25**	<0.48	**0.245**
Metals (mg/L)								
Aluminum	<1	<1	<0.2	**0.0258**	<0.2	<0.2	**0.0114**	**0.0141**
Arsenic	<0.05	**0.029**	**0.0173**	**0.0107**	**0.0129**	**0.0118**	**0.006**	**0.0066**
Barium	<1	<1	**0.015**	**0.0275**	**0.0175**	**0.037**	**0.0333**	**0.0359**
Calcium	**605**	**633**	**491**	**468**	**485**	**571**	**464**	**454**
Chromium	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.25	<0.25	<0.05	**0.0016**	<0.05	**0.0054**	**0.0031**	**0.0019**
Copper	<0.13	<0.13	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Iron	<1.5	<3	<0.3	**0.784**	<0.3	**0.0323**	**1.21**	<0.3
Lead	<0.025	<0.025	<0.01	<0.01	<0.01	**0.0051**	<0.01	<0.01
Magnesium	**142.5**	**413**	**323**	**244**	**261**	**188**	**252**	**337**
Manganese	**0.6175**	<0.075	<0.015	**0.472**	**0.0801**	**2.49**	**1.15**	**1.04**
Nickel	<0.2	<0.2	**0.0023**	**0.0085**	**0.0041**	**0.0192**	**0.0172**	**0.0145**

Table 8-2(b)
Groundwater Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-MW3 (Average)	SWMU123-MW4	SWMU123-MW5	SWMU122-MW01	SWMU122-MW02	SWMU122-MW03	SWMU122-MW04	SWMU122-MW05
Date Sampled	**7/7/2009**	**7/8/2009**	**7/7/2009**	**7/13/2009**	**7/14/2009**	**7/14/2009**	**7/14/2009**	**7/14/2009**
Potassium	**11.05**	**38.7**	**29.2**	**29.6**	**33.3**	**17.8**	**27.4**	**38.1**
Selenium	<0.05	**0.0265**	**0.0288**	**0.0155**	**0.0157**	**0.0135**	**0.012**	**0.0162**
Silver	<0.05	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sodium	**121**	**758**	**816**	**251**	**374**	**145**	**600**	**937**
Thallium	<0.05	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	**0.0042**
Vanadium	<0.25	**0.0857**	**0.143**	**0.0178**	**0.0393**	**0.0514**	**0.0093**	**0.015**
Zinc	<0.1	<0.1	<0.02	**0.0136**	<0.02	**0.0104**	**0.013**	**0.014**

Notes:

A = Duplicate sample

J = Estimated value

mg/L = Milligrams per liter

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-2(b)
Groundwater Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-MW06	SWMU122-MW07	SWMU122-MW08	SWMU122-MW09	SWMU122-MW10 (Average)	SWMU122-MW11	SWMU122-MW12
Date Sampled	**7/13/2009**	**7/13/2009**	**7/13/2009**	**7/14/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**
VOCs (mg/L)							
Acetone	<0.025	<0.025	<0.025	**0.0855**	<0.025	**0.016**	**0.0109**
Acrolein	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02
Acrylonitrile	<0.01	<0.01	<0.01	**0.036**	<0.01	<0.01	<0.01
Benzene	<0.001	<0.001	<0.001	**0.0035**	<0.001	<0.001	<0.001
sec-Butylbenzene	<0.001	<0.001	<0.001	**0.0032**	<0.001	<0.001	<0.001
tert-Butylbenzene	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
Chloroform	**0.00045**	<0.001	<0.001	**0.002**	<0.001	<0.001	<0.001
Carbon disulfide	<0.002	<0.002	<0.002	**0.0056**	<0.002	<0.002	<0.002
Ethylbenzene	<0.001	<0.001	<0.001	**0.157**	<0.001	<0.001	<0.001
Hexane	<0.002	<0.002	<0.002	**0.003**	<0.002	<0.002	<0.002
Isopropylbenzene	<0.001	<0.001	<0.001	**0.0148**	<0.001	<0.001	<0.001
p-Isopropyltoluene	<0.001	<0.001	<0.001	**0.0038**	<0.001	<0.001	<0.001
Methylene chloride	<0.005	<0.005	<0.005	<0.025	<0.005	<0.005	<0.005
Methyl ethyl ketone	<0.005	<0.005	<0.005	**0.033**	<0.005	**0.0065**	**0.0031**
Naphthalene	<0.0048	<0.0048	<0.0048	**0.0098**	<0.005	<0.0048	<0.0048
n-Propylbenzene	<0.001	<0.001	<0.001	**0.0154**	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	<0.002	<0.002	<0.002	**0.125**	<0.002	<0.002	<0.002
1,3,5-Trimethylbenzene	<0.002	<0.002	<0.002	**0.0568**	<0.002	<0.002	<0.002
Toluene	<0.001	<0.001	<0.001	**0.373**	<0.001	**0.00049**	<0.001
Xylenes	<0.003	<0.003	<0.003	**0.725**	<0.003	<0.003	<0.003
SVOCs (mg/L)							
2,4-Dimethylphenol	<0.0048	<0.0048	<0.0048	**0.0068**	<0.005	<0.0048	<0.0048
Benzyl Alcohol	<0.0048	<0.0048	<0.0048	**0.001**	<0.005	<0.0048	<0.0048
Di-n-butyl phthalate	<0.0048	<0.0048	<0.0048	<0.0048	<0.005	<0.0048	<0.0048
Diethyl phthalate	<0.0048	**0.0029**	<0.0048	<0.0048	**0.002325**	<0.0048	<0.0048
bis(2-Ethylhexyl)phthalate	<0.0048	<0.0048	<0.0048	<0.0048	<0.005	**0.0029**	<0.0048
2-Methylnaphthalene	<0.0048	<0.0048	<0.0048	**0.0056**	<0.005	<0.0048	<0.0048
TPHs (mg/L)							
TPHs (>C10-C36)	<0.48	<0.48	<0.48	**0.586**	**0.2345**	**0.634**	**0.835**
Metals (mg/L)							
Aluminum	**0.0197**	**0.0154**	<0.2	**0.0135**	**0.02435**	**0.0244**	**0.0208**
Arsenic	**0.0124**	**0.0078**	**0.0171**	**0.0198**	<0.02	**0.0069**	**0.0077**
Barium	**0.0344**	**0.0548**	**0.0268**	**0.019**	**0.03465**	**0.0684**	**0.0497**
Calcium	**460**	**477**	**447**	**443**	**608**	**454**	**430**
Chromium	<0.01	<0.01	**0.0034**	<0.01	<0.01	<0.01	<0.01
Cobalt	<0.05	**0.0051**	<0.05	**0.0013**	<0.05	**0.0027**	**0.008**
Copper	<0.025	<0.025	<0.025	<0.025	<0.025	**0.0264**	<0.05
Iron	<0.3	**0.526**	<0.3	**0.245**	<0.3	<0.3	**13.6**
Lead	<0.005	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005
Magnesium	**353**	**297**	**336**	**399**	**18.35**	**385**	**496**
Manganese	**0.106**	**0.726**	**0.0444**	**1.1**	**0.0446**	**0.616**	**0.624**
Nickel	**0.0074**	**0.0314**	**0.0048**	**0.007**	<0.04	**0.0368**	**0.0233**

Table 8-2(b)
Groundwater Analytical Data Used for Risk Assessment
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-MW06	SWMU122-MW07	SWMU122-MW08	SWMU122-MW09	SWMU122-MW10 (Average)	SWMU122-MW11	SWMU122-MW12
Date Sampled	**7/13/2009**	**7/13/2009**	**7/13/2009**	**7/14/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**
Potassium	**55.1**	**28.8**	**57.2**	**22.1**	**6.87**	**73**	**68.6**
Selenium	**0.015**	**0.0144**	**0.0101**	**0.0197**	**0.0188**	**0.0104**	**0.0239**
Silver	<0.01	<0.01	<0.01	<0.01	<0.01	**0.0014**	<0.01
Sodium	**1190**	**604**	**597**	**1510**	**13.45**	**1120**	**3470**
Thallium	<0.01	<0.01	<0.01	**0.004**	<0.01	<0.01	<0.01
Vanadium	**0.0515**	**0.0154**	**0.056**	**0.0438**	**0.06165**	**0.01**	**0.0028**
Zinc	**0.0084**	**0.0146**	**0.0104**	<0.02	<0.02	**0.0734**	**0.022**

Notes:

A = Duplicate sample

J = Estimated value

mg/L = Milligrams per liter

SVOCs = Semi-volatile organic compounds

TPHs = Total petroleum hydrocarbons

VOCs = Volatile organic compounds

Value in bold = Detected concentration

Table 8-2(c)
Summary of Groundwater Data
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Chemical	Number of Samples	Number of Detects	Detected Concentration		Reporting Limit	
			Maximum	Minimum	Maximum	Minimum
			mg/L			
VOCs						
Acetone	15	4	0.0855	0.0109	0.025	0.025
Acrolein	15	1	0.01215	0.01215	0.1	0.02
Acrylonitrile	15	1	0.036	0.036	0.01	0.01
Benzene	15	1	0.0035	0.0035	0.001	0.001
sec-Butylbenzene	15	2	0.0032	0.000375	0.001	0.001
tert-Butylbenzene	15	1	0.000845	0.000845	0.005	0.001
Chloroform	15	6	0.002	0.00029	0.001	0.001
Carbon disulfide	15	1	0.0056	0.0056	0.002	0.002
Ethylbenzene	15	1	0.157	0.157	0.001	0.001
Hexane	15	1	0.003	0.003	0.002	0.002
Isopropylbenzene	15	2	0.0148	0.00049	0.001	0.001
p-Isopropyltoluene	15	1	0.0038	0.0038	0.001	0.001
Methylene chloride	15	1	0.0012	0.0012	0.025	0.005
Methyl ethyl ketone	15	3	0.033	0.0031	0.005	0.005
Naphthalene	15	1	0.0098	0.0098	0.005	0.0048
n-Propylbenzene	15	1	0.0154	0.0154	0.001	0.001
1,2,4-Trimethylbenzene	15	1	0.125	0.125	0.002	0.002
1,3,5-Trimethylbenzene	15	1	0.0568	0.0568	0.002	0.002
Toluene	15	2	0.373	0.00049	0.001	0.001
Xylenes	15	1	0.725	0.725	0.003	0.003
SVOCs						
2,4-Dimethylphenol	15	1	0.0068	0.0068	0.0052	0.0048
Benzyl Alcohol	15	1	0.001	0.001	0.0052	0.0048
Di-n-butyl phthalate	15	2	0.0021	0.0011	0.0052	0.0048
Diethyl phthalate	15	6	0.0058	0.0021	0.0052	0.0048
bis(2-Ethylhexyl)phthalate	15	2	0.0029	0.00275	0.0051	0.0048
2-Methylnaphthalene	15	1	0.0056	0.0056	0.0052	0.0048
TPHs						
TPHs (>C10-C36)	15	7	21.3485	0.2345	0.5	0.48
Metals						
Aluminum	15	9	0.0258	0.0114	1	0.2
Arsenic	15	13	0.029	0.006	0.05	0.02
Barium	15	13	0.0684	0.015	1	1
Calcium	15	15	633	430	N/A	N/A
Chromium	15	1	0.0034	0.0034	0.05	0.01
Cobalt	15	8	0.008	0.0013	0.25	0.05
Copper	15	1	0.0264	0.0264	0.13	0.025
Iron	15	6	13.6	0.0323	3	0.3
Lead	15	1	0.0051	0.0051	0.025	0.005
Magnesium	15	15	496	18.35	N/A	N/A
Manganese	15	13	2.49	0.0444	0.075	0.015
Nickel	15	12	0.0368	0.0023	0.2	0.04
Potassium	15	15	73	6.87	N/A	N/A
Selenium	15	14	0.0288	0.0101	0.05	0.05
Silver	15	1	0.0014	0.0014	0.05	0.01
Sodium	15	15	3,470	13.45	N/A	N/A
Thallium	15	2	0.0042	0.004	0.05	0.01
Vanadium	15	14	0.143	0.0028	0.25	0.25
Zinc	15	9	0.0734	0.0084	0.1	0.02

Notes:
mg/L = Milligrams per liter
N/A = Not applicable
SVOCs = Semi-volatile organic compounds
TPHs = Total petroleum hydrocarbons
VOCs = Volatile organic compounds

Table 8-2(d)
Comparison of Maximum Detected Concentration of Groundwater with Screening Levels
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Chemical	Maximum Detected Concentration (mg/L)	Screening Level		Exceed/Not Exceed	COPC
		mg/L	Source		
VOCs					
Acetone	0.0855	NV		N/A	**Yes**
Acrolein	0.01215	NV		N/A	**Yes**
Acrylonitrile	0.036	NV		N/A	**Yes**
Benzene	0.0035	0.005	2	Not Exceed	No
sec-Butylbenzene	0.0032	NV		N/A	**Yes**
tert-Butylbenzene	0.000845	NV		N/A	**Yes**
Chloroform	0.002	0.1	1	Not Exceed	No
Carbon disulfide	0.0056	NV		N/A	**Yes**
Ethylbenzene	0.157	0.7	2	Not Exceed	No
Hexane	0.003	NV		N/A	**Yes**
Isopropylbenzene	0.0148	NV		N/A	**Yes**
p-Isopropyltoluene	0.0038	NV		N/A	**Yes**
Methylene chloride	0.0012	0.005	2	Not Exceed	No
Methyl ethyl ketone	0.033	NV		N/A	**Yes**
Naphthalene	0.0098	0.03	1	Not Exceed	No
n-Propylbenzene	0.0154	NV		N/A	**Yes**
1,2,4-Trimethylbenzene	0.125	NV		N/A	**Yes**
1,3,5-Trimethylbenzene	0.0568	NV		N/A	**Yes**
Toluene	0.373	0.75	1	Not Exceed	No
Xylenes	0.725	0.62	1	Exceed	**Yes**
SVOCs					
2,4-Dimethylphenol	0.0068	NV		N/A	**Yes**
Benzyl Alcohol	0.001	NV		N/A	**Yes**
Di-n-butyl phthalate	0.0021	NV		N/A	**Yes**
Diethyl phthalate	0.0058	NV		N/A	**Yes**
bis(2-Ethylhexyl)phthalate	0.0029	NV		N/A	**Yes**
2-Methylnaphthalene	0.0056	NV		N/A	**Yes**
TPHs					
TPHs (>C10-C36)	21.3	30.4	3	Not Exceed	No
Metals					
Aluminum	0.0258	0.05	2	Not Exceed	No
Arsenic	0.029	0.01	2	Exceed	**Yes**
Barium	0.0684	1	1	Not Exceed	No
Calcium	633	1151	4	Not Exceed	No
Chromium	0.0034	0.05	1	Not Exceed	No
Cobalt	0.008	0.05	1	Not Exceed	No
Copper	0.0264	1	1	Not Exceed	No
Iron	13.6	0.3	2	Exceed	**Yes**
Lead	0.0051	0.015	2	Not Exceed	No
Magnesium	496	3631	4	Not Exceed	No
Manganese	2.49	0.05	2	Exceed	**Yes**
Nickel	0.0368	0.2	1	Not Exceed	No
Potassium	73	120	4	Not Exceed	No
Selenium	0.0288	0.05	1	Not Exceed	No
Silver	0.0014	0.05	1	Not Exceed	No
Sodium	3470	19972	4	Not Exceed	No
Thallium	0.0042	0.002	2	Exceed	**Yes**
Vanadium	0.143	0.0738	4	Exceed	**Yes**
Zinc	0.0734	5	2	Not Exceed	No

Notes:
COPC = Chemical of potential concern
mg/L = Milligrams per liter
N/A = Not applicable
NV = No value
SVOCs = Semi-volatile organic compounds
TPHs = Total petroleum hydrocarbons
VOCs = Volatile organic compounds

Sources:
1 = NMWQCC Groundwater Standards for Contaminants (NMAC 20.6.2.3103)
2 = USEPA National Priority Drinking Water Regulation MCLs (USEPA, 2009)
3 = TPH Screening Guidelines (NMED, 2006); from Table 2b for diesel #2/crankcase oil
4 = NMED Approved HAFB Background Levels (NMED, 2011)

Table 8-3
Chemicals of Potential Concern
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Chemicals	Soil	Groundwater
Acetone		X
Acrolein		X
Acrylonitrile		X
sec-Butylbenzene		X
tert-Butylbenzene		X
Carbon disulfide		X
Hexane		X
Isopropylbenzene		X
p-Isopropyltoluene		X
Methyl ethyl ketone		X
n-Propylbenzene		X
1,2,4-Trimethylbenzene		X
1,3,5-Trimethylbenzene		X
Xylenes		X
2,4-Dimethylphenol		X
Benzyl Alcohol		X
Di-n-butyl phthalate		X
Diethyl phthalate		X
bis(2-Ethylhexyl)phthalate		X
2-Methylnaphthalene		X
Arsenic	X	X
Iron		X
Magnesium	X	
Manganese		X
Thallium		X
Vanadium		X
Total No. of COPCs	**2**	**25**

Notes:
COPCs = Chemicals of potential concern
X = COPC based on maximum detected concentration greater than screening level or chemical without screening level

Table 8-4(a)
Exposure Model for Current Commercial/Industrial Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

No.	Exposure Pathway	C/NC	Justification
1	Dermal contact with surficial soil	NC	Surficial soil has not been impacted based on the available soil data. Therefore, this exposure pathway is not complete.
2	Ingestion of surficial soil	NC	
3	Outdoor inhalation of vapors or particulates from surficial soil	NC	
4	Outdoor inhalation of vapors from subsurface soil	NC	Arsenic and magnesium are COPCs in soil and these are not volatile. Therefore, this exposure pathway is not complete.
5	Indoor inhalation of vapors from subsurface soil	NC	
6	**Outdoor inhalation of vapors from groundwater**	**C**	**Groundwater has been impacted with volatile compounds and vapors from groundwater may migrate upwards through the vadose zone and into the ambient air through cracks in the pavement. Therefore, this exposure pathway is complete.**
7	Indoor inhalation of vapors from groundwater	NC	Groundwater has been impacted with volatile compounds; however, currently there are no enclosed buildings at the site. Therefore, this exposure pathway is not complete.
8	Ingestion of groundwater	NC	The facility receives water from Lake Bonito. No water supply wells will be installed on or near the Base because of poor groundwater quality. Therefore, this exposure pathway is not complete.
9	Dermal contact with groundwater	NC	

Notes:
C: Complete
NC: Not complete
Pathways shown in bold will be quantitatively evaluated.
Surficial soil is assumed to be soil located 0 to 2 feet below ground surface (ft bgs).
Subsurface soil is assumed to be soil between 2 ft bgs and the groundwater table.

Table 8-4(b)
Exposure Model for Future Resident
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

No.	Exposure Pathway	C/NC	Justification
1	Dermal contact with surficial soil	NC	Surficial soil has not been impacted based on the available soil data. Therefore, this exposure pathway is not complete.
2	Ingestion of surficial soil	NC	
3	Outdoor inhalation of vapors or particulates from surficial soil	NC	
4	Outdoor inhalation of vapors from subsurface soil	NC	Arsenic and magnesium are COPCs in soil and these are not volatile. Therefore, this exposure pathway is not complete.
5	Indoor inhalation of vapors from subsurface soil	NC	
6	Outdoor inhalation of vapors from groundwater	C	Vapors from groundwater may migrate upwards through the vadose zone and into the ambient air through cracks in the pavement. However, this pathway is generally not the “risk driver” due to considerable mixing and dilution in ambient air especially when the indoor inhalation pathway is also evaluated. Therefore, this pathway will not be evaluated quantitatively.
7	**Indoor inhalation of vapors from groundwater**	**C**	**Groundwater has been impacted with volatile compounds and a building may be built on or near the area where groundwater has been impacted. Therefore, this pathway is complete.**
8	Ingestion of groundwater	NC	The facility receives water from Lake Bonito. No water supply wells will be installed on or near the Base because of poor groundwater quality water. Therefore, this exposure pathway is not complete.
9	Dermal contact with groundwater	NC	

Notes:
C: Complete
NC: Not complete
Pathways shown in bold will be quantitatively evaluated.
Surficial soil is assumed to be soil located 0 to 2 feet below ground surface (ft bgs).
Subsurface soil is assumed to be soil between 2 ft bgs and the groundwater table.

Table 8-4(c)
Exposure Model for Future Construction Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

No.	Exposure Pathway	C/NC	Justification
1	**Dermal contact with soil to depth of construction**	**C**	**Soil to depth of construction (10 ft bgs) has been impacted. Therefore, this exposure pathway is complete.**
2	**Ingestion of soil to depth of construction**	**C**	
3	**Outdoor inhalation of vapors or particulates from soil to depth of construction**	**C**	
4	Indoor inhalation of vapors from soil	NC	Typically construction would not be expected to occur indoors over an extended period of time. Therefore, this exposure pathway is not complete.
5	Indoor inhalation of vapors from groundwater	NC	
6	Dermal contact with groundwater	NC	Depth to groundwater is approximately 10.5 ft bgs which is below the anticipated depth of construction (10 ft bgs). Therefore, this exposure pathway is not complete.
7	Outdoor inhalation of vapors from groundwater	NC	

Notes:
C: Complete
NC: Not complete
Soil to depth of construction is assumed to be soil 0 to 10 feet below ground surface (ft bgs).

Table 8-5(a)
Representative Concentrations of Groundwater for Current Commercial/Industrial Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-MW3 (Average)	SWMU123-MW4	SWMU123-MW5	SWMU122-MW01	SWMU122-MW02	SWMU122-MW03	SWMU122-MW04	SWMU122-MW05
Date Sampled	**7/7/2009**	**7/8/2009**	**7/7/2009**	**7/13/2009**	**7/14/2009**	**7/14/2009**	**7/14/2009**	**7/14/2009**
Acetone	<0.025	<0.025	<0.025	0.0128	<0.025	<0.025	<0.025	<0.025
Acrolein	0.01215	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Acrylonitrile	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
sec-Butylbenzene	0.000375	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
tert-Butylbenzene	0.000845	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Carbon disulfide	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Hexane	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Isopropylbenzene	0.00049	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
p-Isopropyltoluene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Methyl ethyl ketone	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
n-Propylbenzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,2,4-Trimethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
1,3,5-Trimethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Xylenes	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
2,4-Dimethylphenol	<0.0052	<0.0051	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
Benzyl Alcohol	<0.0052	<0.0051	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
Di-n-butyl phthalate	<0.0052	<0.0051	<0.005	<0.005	<0.005	<0.005	0.0011	0.0021
Diethyl phthalate	<0.0052	<0.0051	<0.005	0.0021	<0.005	0.0048	0.004	0.0058
bis(2-Ethylhexyl)phthalate	0.00275	<0.0051	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
2-Methylnaphthalene	<0.0052	<0.0051	<0.005	<0.005	<0.005	<0.005	<0.0048	<0.0048
Arsenic	<0.05	0.029	0.0173	0.0107	0.0129	0.0118	0.006	0.0066
Iron	<1.5	<3	<0.3	0.784	<0.3	0.0323	1.21	<0.3
Manganese	0.6175	<0.075	<0.015	0.472	0.0801	2.49	1.15	1.04
Thallium	<0.05	<0.05	<0.02	<0.01	<0.01	<0.01	<0.01	0.0042
Vanadium	<0.25	0.0857	0.143	0.0178	0.0393	0.0514	0.0093	0.015

Notes:
mg/L = Milligrams per liter

Table 8-5(a)
Representative Concentrations of Groundwater for Current Commercial/Industrial Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-MW06	SWMU122-MW07	SWMU122-MW08	SWMU122-MW09	SWMU122-MW10 (Average)	SWMU122-MW11	SWMU122-MW12	Representative Concentration (mg/L)
Date Sampled	**7/13/2009**	**7/13/2009**	**7/13/2009**	**7/14/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	
Acetone	<0.025	<0.025	<0.025	0.0855	<0.025	0.016	0.0109	0.0175
Acrolein	<0.02	<0.02	<0.02	<0.1	<0.02	<0.02	<0.02	0.0128
Acrylonitrile	<0.01	<0.01	<0.01	0.036	<0.01	<0.01	<0.01	0.0071
sec-Butylbenzene	<0.001	<0.001	<0.001	0.0032	<0.001	<0.001	<0.001	0.0007
tert-Butylbenzene	<0.001	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	0.0007
Carbon disulfide	<0.002	<0.002	<0.002	0.0056	<0.002	<0.002	<0.002	0.0013
Hexane	<0.002	<0.002	<0.002	0.003	<0.002	<0.002	<0.002	0.0011
Isopropylbenzene	<0.001	<0.001	<0.001	0.0148	<0.001	<0.001	<0.001	0.0015
p-Isopropyltoluene	<0.001	<0.001	<0.001	0.0038	<0.001	<0.001	<0.001	0.0007
Methyl ethyl ketone	<0.005	<0.005	<0.005	0.033	<0.005	0.0065	0.0031	0.0048
n-Propylbenzene	<0.001	<0.001	<0.001	0.0154	<0.001	<0.001	<0.001	0.0015
1,2,4-Trimethylbenzene	<0.002	<0.002	<0.002	0.125	<0.002	<0.002	<0.002	0.0093
1,3,5-Trimethylbenzene	<0.002	<0.002	<0.002	0.0568	<0.002	<0.002	<0.002	0.0047
Xylenes	<0.003	<0.003	<0.003	0.725	<0.003	<0.003	<0.003	0.0497
2,4-Dimethylphenol	<0.0048	<0.0048	<0.0048	0.0068	<0.005	<0.0048	<0.0048	0.0028
Benzyl Alcohol	<0.0048	<0.0048	<0.0048	0.001	<0.005	<0.0048	<0.0048	0.0024
Di-n-butyl phthalate	<0.0048	<0.0048	<0.0048	<0.0048	<0.005	<0.0048	<0.0048	0.0024
Diethyl phthalate	<0.0048	0.0029	<0.0048	<0.0048	0.002325	<0.0048	<0.0048	0.0029
bis(2-Ethylhexyl)phthalate	<0.0048	<0.0048	<0.0048	<0.0048	<0.005	0.0029	<0.0048	0.0025
2-Methylnaphthalene	<0.0048	<0.0048	<0.0048	0.0056	<0.005	<0.0048	<0.0048	0.0027
Arsenic	0.0124	0.0078	0.0171	0.0198	<0.02	0.0069	0.0077	0.0134
Iron	<0.3	0.526	<0.3	0.245	<0.3	<0.3	13.6	1.3132
Manganese	0.106	0.726	0.0444	1.1	0.0446	0.616	0.624	0.6104
Thallium	<0.01	<0.01	<0.01	0.004	<0.01	<0.01	<0.01	0.0079
Vanadium	0.0515	0.0154	0.056	0.0438	0.06165	0.01	0.0028	0.0485

Notes:
mg/L = Milligrams per liter

Table 8-5(b)
Representative Concentration of Soil for Future Construction Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-SW02	SWMU123-SW03	SWMU123-SW04	SWMU123-SW05	SWMU123-SW07	SWMU123-SW08	SWMU123-SW09 (Average)	SWMU123-SW010	SWMU123-SW011
Sample Depth (ft bgs)	**6**	**6**	**6**	**6**	**5 - 7**	**4 - 5**	**9 - 11**	**9 - 11**	**9 - 11**
Date Sampled	**10/13/2005**	**10/13/2005**	**10/13/2005**	**10/13/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**	**12/19/2005**
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
ft bgs = Feet below ground surface
NA = Not analyzed
mg/kg = Milligrams per

Table 8-5(b)
Representative Concentration of Soil for Future Construction Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU123-SW012	SWMU123-SW013	SWMU123-SW014	SWMU123-SW15	SWMU123-SW16	SWMU122-DP01-5	SWMU122-DP02-5	SWMU122-DP02-10
Sample Depth (ft bgs)	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**9 - 11**	**5**	**5**	**10**
Date Sampled	**12/19/2005**	**12/19/2005**	**12/19/2005**	**1/11/2006**	**1/11/2006**	**7/9/2009**	**7/9/2009**	**7/9/2009**
Arsenic	NA	NA	NA	NA	NA	2	<6	6.3
Magnesium	NA	NA	NA	NA	NA	5,250	4,150	18,000

Notes:
ft bgs = Feet below ground surface
NA = Not analyzed
mg/kg = Milligrams per

Table 8-5(b)
Representative Concentration of Soil for Future Construction Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample ID	SWMU122-DP03-5	SWMU122-DP03-10	SWMU122-DP04-5	SWMU122-DP04-10 (Average)	Representative Concentration (mg/kg)
Sample Depth (ft bgs)	**5**	**10**	**5**	**10**	
Date Sampled	**7/9/2009**	**7/9/2009**	**7/9/2009**	**7/9/2009**	
Arsenic	2.6	5.8	2.4	5.25	3.91
Magnesium	2,100	18,600	3,660	8,810	8,653

Notes:
ft bgs = Feet below ground surface
NA = Not analyzed
mg/kg = Milligrams per

Table 8-6(a)
Toxicity Values and Physical/Chemical Parameters for Outdoor Inhalation of Vapors from Groundwater
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPC	Volatility	Molecular Weight MW (g/mol)	Organic Carbon Partition Coefficient K_{oc} (cm^3/g)	Soil Water Partition Coefficient K_d (cm^3/g)	Diffusivity in Air D_a (cm^2/s)	Diffusivity in Water D_w (cm^2/s)	Water Solubility S (mg/L)	Henry's Law Constant H' (unitless)	Unit Risk Factor URF ($\mu g/m^3)^{-1}$	Reference Cncentration RfC (mg/m^3)
Acetone	Volatile	5.81E+01	1.98E+00	NA	1.20E-01	1.10E-05	1.00E+06	1.60E-03	NA	*3.10E+01*
Acrolein	Volatile	5.61E+01	2.76E+00	NA	1.10E-01	1.20E-05	2.12E+05	5.00E-03	NA	*2.00E-05*
Acrylonitrile	Volatile	4.11E+01	4.50E+00	NA	1.30E-01	1.40E-05	1.00E+06	1.40E-03	*6.80E-05*	*2.00E-03*
sec-Butylbenzene	Volatile	***1.34E+02***	***2.09E+03***	NA	***5.75E-02***	***6.75E-06***	***1.81E+01***	***5.07E-01***	NA	NA
tert-Butylbenzene	Volatile	***1.34E+02***	***2.45E+03***	NA	***5.84E-02***	***6.76E-06***	***1.51E+01***	***8.56E-01***	NA	NA
Carbon disulfide	Volatile	7.60E+01	1.00E+00	NA	1.10E-01	1.30E-05	1.18E+03	5.90E-01	NA	*7.00E-01*
Hexane	Volatile	8.60E+01	1.49E+02	NA	7.30E-02	8.20E-06	9.50E+00	7.40E+01	NA	*7.00E-01*
Isopropylbenzene	Volatile	1.20E+02	8.17E+02	NA	6.00E-02	7.90E-06	6.13E+01	4.70E-01	NA	*4.00E-01*
p-Isopropyltoluene	Volatile	***1.34E+02***	***2.29E+03***	NA	***5.72E-02***	***6.73E-06***	***1.71E+01***	***4.66E-01***	NA	NA
Methyl ethyl ketone	Volatile	7.20E+01	3.83E+00	NA	9.10E-02	1.00E-05	2.23E+05	2.30E-03	NA	*5.00E+00*
n-Propylbenzene	Volatile	*1.20E+02*	*8.13E+02*	NA	*6.02E-02*	*7.83E-06*	*5.22E+01*	*4.29E-01*	NA	*1.00E+00*
1,2,4-Trimethylbenzene	Volatile	*1.20E+02*	*6.14E+02*	NA	*6.07E-02*	*7.92E-06*	*5.70E+01*	*2.52E-01*	NA	*7.00E-03*
1,3,5-Trimethylbenzene	Volatile	*1.20E+02*	*6.02E+02*	NA	*6.02E-02*	*7.84E-06*	*4.82E+01*	*3.59E-01*	NA	***6.00E-03***
Xylenes	Volatile	1.06E+02	4.43E+02	NA	8.50E-02	9.90E-06	1.06E+02	2.70E-01	NA	*1.00E-01*
2,4-Dimethylphenol	Not Volatile	*1.22E+02*	*4.92E+02*	NA	*6.22E-02*	*8.31E-06*	*7.87E+03*	*3.89E-05*	NA	NA
Benzyl alcohol	Not Volatile	*1.08E+02*	*2.15E+01*	NA	*7.31E-02*	*9.37E-06*	*4.29E+04*	*1.38E-05*	NA	NA
Di-n-butyl phthalate	Not Volatile	2.78E+02	1.46E+03	NA	*2.14E-02*	*5.33E-06*	1.12E+01	7.40E-05	NA	NA
Diethyl phthalate	Not Volatile	2.22E+02	1.26E+02	NA	*2.61E-02*	*6.72E-06*	1.08E+03	2.50E-05	NA	NA
bis(2-Ethylhexyl)phthalate	Not Volatile	3.91E+02	1.65E+05	NA	*1.73E-02*	*4.18E-06*	2.70E-01	1.10E-05	*2.40E-06*	NA
2-Methylnaphthalene	Volatile	*1.42E+02*	*2.48E+03*	NA	*5.24E-02*	*7.78E-06*	*2.46E+01*	*2.12E-02*	NA	NA
Arsenic	Not Volatile	7.49E+01	NA	2.90E+01	NA	NA	NA	NA	*4.30E-03*	*1.50E-05*
Iron	Not Volatile	5.58E+01	NA	2.50E+01	NA	NA	NA	NA	NA	NA
Manganese	Not Volatile	5.49E+01	NA	2.15E-02	NA	NA	NA	NA	NA	*5.00E-05*
Thallium	Not Volatile	5.49E+01	NA	2.15E+02	NA	NA	NA	NA	NA	NA
Vanadium	Not Volatile	5.09E+01	NA	1.00E+03	NA	NA	NA	NA	NA	***1.00E-04***

Notes:
COPC = Chemical of potential concern
$\mu g/m^3$ = Micrograms per cubic meter
mg/m^3 = Milligrams per cubic meter
mg/L = Milligrams per Liter
cm^3/g = Cubic centimeters per gram
cm^2/s = Square centimeters per second
g/mol = Grams per mole
NA = Not available
Value in normal font obtained from Technical Background Document for Development of Soil Screening Levels, Revision 5.0 (NMED, 2009)
Value in italics obtained from the Regional Screening Level Summary Table (USEPA, 2011)
Value in bold and italics obtained from the Texas Risk Reduction Program Rule Tables (TCEQ, 2011)

Table 8-6(b)
Exposure Factors for Outdoor Inhalation of Vapors from Groundwater
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Values Used	Source
Averaging time for carcinogen	ATc	days	25,550	NMED, 2009
Averaging time for non-carcinogen	ATnc	days	ED*365	NMED, 2009
Exposure duration (ED) for commercial/industrial worker	ED_{CI}	years	25	NMED, 2009
Exposure frequency for commercial/industrial worker	EF_{CI}	days/year	225	NMED, 2009
Exposure time for commercial/industrial worker	ET_{CI}	Unitless	0.33	NMED, 2009

Notes:
NMED = New Mexico Environment Department
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0

Table 8-6(c)
Fate and Transport Parameters for Outdoor Inhalation of Vapors from Groundwater
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Value Used	Source
Mean annual wind speed	U_m	m/s	4.02	NMED, 2009
Breathing zone height	δ_a	cm	200	ASTM, 1995
Depth to groundwater	L_{GW}	cm	320	Site-specific
Thickness of capillary fringe	h_{cap}	cm	37.5	USEPA, 2004
Dimension of source area parallel to wind direction	W_{ga}	cm	6,466	Site-specific
Soil total porosity in vadose zone	n	unitless	0.43	NMED, 2009
Soil water-filled porosity in vadose zone	θ_{wv}	cm^3/cm^3	0.26	NMED, 2009
Soil total porosity in capillary fringe	n_{cap}	unitless	0.43	Professional Judgment
Soil water-filled porosity in capillary fringe	θ_{wcap}	cm^3/cm^3	0.39	Professional Judgment

Notes:
ASTM = American Society for Testing and Materials
NMED = New Mexico Environment Department
ASTM, 1995. Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
USEPA, 2004. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings
cm = Centimeters
cm^3/cm^3 = Cubic centimeters per cubic centimeter
g/cm^3 = Grams per cubic centimeter
m/s = Meters per second

Table 8-7(a)
Toxicity Values and Physical and Chemical Parameters for Indoor Inhalation of Vapors from Groundwater (J&E Model)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Chemical	Volatility	Molecular Weight MW (g/mol)	Organic Carbon Partition Coefficient K_{oc} (cm^3/g)	Soil Water Partition Coefficient K_d (cm^3/g)	Diffusivity in Air D_a (cm^2/s)	Diffusivity in Water D_w (cm^2/s)	Water Solubility S (mg/L)	Henry's Law Constant H' (unitless)	Henry's Law Constant H (atm-m^3/mol)	Unit Risk Factor URF ($\mu g/m^3)^{-1}$	Reference Cncentration RfC (mg/m^3)
Acetone	Volatile	5.81E+01	1.98E+00	NA	1.20E-01	1.10E-05	1.00E+06	1.60E-03	3.90E-05	NA	*3.10E+01*
Acrolein	Volatile	5.61E+01	2.76E+00	NA	1.10E-01	1.20E-05	2.12E+05	5.00E-03	1.22E-04	NA	*2.00E-05*
Acrylonitrile	Volatile	4.11E+01	4.50E+00	NA	1.30E-01	1.40E-05	1.00E+06	1.40E-03	3.41E-05	*6.80E-05*	*2.00E-03*
sec-Butylbenzene	Volatile	***1.34E+02***	***2.09E+03***	NA	***5.75E-02***	***6.75E-06***	***1.81E+01***	***5.07E-01***	***1.24E-02***	NA	NA
tert-Butylbenzene	Volatile	***1.34E+02***	***2.45E+03***	NA	***5.84E-02***	***6.76E-06***	***1.51E+01***	***8.56E-01***	***2.09E-02***	NA	NA
Carbon disulfide	Volatile	7.60E+01	1.00E+00	NA	1.10E-01	1.30E-05	1.18E+03	5.90E-01	1.44E-02	NA	*7.00E-01*
Hexane	Volatile	8.60E+01	1.49E+02	NA	7.30E-02	8.20E-06	9.50E+00	7.40E+01	1.80E+00	NA	*7.00E-01*
Isopropylbenzene	Volatile	1.20E+02	8.17E+02	NA	6.00E-02	7.90E-06	6.13E+01	4.70E-01	1.15E-02	NA	*4.00E-01*
p-Isopropyltoluene	Volatile	***1.34E+02***	***2.29E+03***	NA	***5.72E-02***	***6.73E-06***	***1.71E+01***	***4.66E-01***	***1.14E-02***	NA	NA
Methyl ethyl ketone	Volatile	7.20E+01	3.83E+00	NA	9.10E-02	1.00E-05	2.23E+05	2.30E-03	5.61E-05	NA	*5.00E+00*
n-Propylbenzene	Volatile	*1.20E+02*	*8.13E+02*	NA	*6.02E-02*	*7.83E-06*	*5.22E+01*	*4.29E-01*	*1.05E-02*	NA	*1.00E+00*
1,2,4-Trimethylbenzene	Volatile	*1.20E+02*	*6.14E+02*	NA	*6.07E-02*	*7.92E-06*	*5.70E+01*	*2.52E-01*	*6.15E-03*	NA	*7.00E-03*
1,3,5-Trimethylbenzene	Volatile	*1.20E+02*	*6.02E+02*	NA	*6.02E-02*	*7.84E-06*	*4.82E+01*	*3.59E-01*	*8.76E-03*	NA	***6.00E-03***
Xylenes	Volatile	1.06E+02	4.43E+02	NA	8.50E-02	9.90E-06	1.06E+02	2.70E-01	6.59E-03	NA	*1.00E-01*
2,4-Dimethylphenol	Not Volatile	*1.22E+02*	*4.92E+02*	NA	*6.22E-02*	*8.31E-06*	*7.87E+03*	*3.89E-05*	*9.49E-07*	NA	NA
Benzyl Alcohol	Not Volatile	*1.08E+02*	*2.15E+01*	NA	*7.31E-02*	*9.37E-06*	*4.29E+04*	*1.38E-05*	*3.37E-07*	NA	NA
Di-n-butyl phthalate	Not Volatile	2.78E+02	1.46E+03	NA	*2.14E-02*	*5.33E-06*	1.12E+01	7.40E-05	1.80E-06	NA	NA
Diethyl phthalate	Not Volatile	2.22E+02	1.26E+02	NA	*2.61E-02*	*6.72E-06*	1.08E+03	2.50E-05	6.10E-07	NA	NA
bis(2-Ethylhexyl)phthalate	Not Volatile	3.91E+02	1.65E+05	NA	*1.73E-02*	*4.18E-06*	2.70E-01	1.10E-05	2.68E-07	*2.40E-06*	NA
2-Methylnaphthalene	Volatile	*1.42E+02*	*2.48E+03*	NA	*5.24E-02*	*7.78E-06*	*2.46E+01*	*2.12E-02*	*5.17E-04*	NA	NA
Arsenic	Not Volatile	7.49E+01	NA	2.90E+01	NA	NA	NA	NA	NA	*4.30E-03*	*1.50E-05*
Iron	Not Volatile	5.58E+01	NA	2.50E+01	NA	NA	NA	1.00E+00	2.44E-02	NA	NA
Manganese	Not Volatile	5.49E+01	NA	2.15E-02	NA	NA	NA	NA	NA	NA	*5.00E-05*
Thallium	Not Volatile	5.49E+01	NA	2.15E+02	NA	NA	NA	NA	NA	NA	NA
Vanadium	Not Volatile	5.09E+01	NA	1.00E+03	NA	NA	NA	NA	NA	NA	***1.00E-04***

Notes:
NA = Not available
Value in normal font obtained from Technical Background Document for Development of Soil Screening Levels, Revision 5.0 (NMED, 2009)
Value in italics obtained from the Regional Screening Level Summary Table (USEPA, 2011)
Value in bold and italics obtained from the Texas Risk Reduction Program Rule Tables (TCEQ, 2011)
cm^3/g = Cubic centimeters per gram
cm^2/s = Square centimeters per second
mg/L = Milligrams per liter
atm-m^3/mol = Atmospheric-cubic meters per mole
g/mol = Grams per mole
mg/m^3 = Milligrams per cubic meter
$\mu g/m^3$ = Micrograms per cubic meter

Table 8-7(b)
Exposure Factors Used for Indoor Inhalation of Vapors from Groundwater (J&E Model)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Values Used	Source
Averaging time for carcinogen	ATc	days	25,550	NMED, 2009
Averaging time for non-carcinogen	ATnc	days	ED*365	NMED, 2009
Exposure duration (ED) for resident	ED	years	30	NMED, 2009
Exposure frequency for resident	EF	days/year	350	NMED, 2009

Notes:
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
NMED = New Mexico Environment Department

Table 8-7(c)
Media Specific Parameters for Indoor Inhalation of Vapors from Groundwater (J&E Model)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Value Used	Source
Source Parameters				
Average soil temperature	T_s	°C	25	Site-specific
Depth below grade to water table	L_{WT}	cm	320	Site-specific
Thickness of capillary fringe zone	L_{cz}	cm	37.5	USEPA, 2004
Geotechnical Parameters				
Soil total porosity in the vadose zone and the capillary fringe zone	n	unitless	0.43	NMED, 2009
Soil water-filled porosity in the vadose zone	θ_w	cm^3/cm^3	0.26	NMED, 2009
Soil water-filled porosity in the capillary fringe zone	θ_{wcz}	cm^3/cm^3	0.39	Professional Judgment
Building Parameters for Future Resident				
Depth below grade to bottom of enclosed space floor	L_F	cm	15	USEPA, 2004
Enclosed space floor thickness	L_{crack}	cm	10	USEPA, 2004
Enclosed space floor length	L_B	cm	1,000	USEPA, 2004
Enclosed space floor width	W_B	cm	1,000	USEPA, 2004
Enclosed space height	H_B	cm	244	USEPA, 2004
Floor-wall seam crack width	w	cm	0.1	USEPA, 2004
Indoor air exchange rate	ER	1/hr	0.25	USEPA, 2004
Average vapor flow rate into building	Q_{soil}	L/min	5	USEPA, 2004

Notes:
NMED = New Mexico Environment Department
USEPA = United States Environmental Protection Agency
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
USEPA, 2004. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings
˚C = Degrees celcius
cm = Centimeters
cm^3/cm^3 = Cubic centimeters per cubic centimeter
1/hr = One per hour
L/min = Liters per minute

Table 8-8(a)
Toxicity Values and Physical/Chemical Parameters for Combined Pathway from Soil
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPC	Oral Spole Factor SF_o (kg-day/mg)	Units Risk Factor URF $(\mu g/m^3)^{-1}$	Oral Reference Dose RfD_o (mg/kg-day)	Reference Concentration RfC (mg/m^3)	Skim Absorption Factor ABS (unitless)	Water Solubility S (mg/L)	Henry's Law Constant H (L-water/L-air)	Soil Water Partition Coefficient K_d (cm^3/g)	Diffusivity in Air D_a (cm^2/s)	Diffusivity in Water D_w (cm^2/s)	Molecular Weight MW (g/g-mol)
Arsenic	*1.50E+00*	*4.30E-03*	*3.00E-04*	*1.50E-05*	*3.00E-02*	NA	NA	2.90E+01	NA	NA	7.49E+01
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA = Not available
Value in normal font obtained from Technical Background Document for Development of Soil Screening Levels, Revision 5.0 (NMED, 2009)
Value in italics obtained from the Regional Screening Level Tables (USEPA, 2011)
$\mu g/m^3$ = Micrograms per cubic meter
cm^2/s = Square centimeters per second
cm^3/g = Cubic centimeters per gram
g/g-mol = Grams per gram-mole

Table 8-8(b)
Exposure Factors for Combined Pathway from Soil
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Values Used	Source
Averaging time for carcinogen	ATc	days	25,550	NMED, 2009
Averaging time for non-carcinogen	ATnc	days	ED*365	NMED, 2009
Body weight for adult	BWa	kg	70	NMED, 2009
Exposure duration (ED) for construction worker	ED_{CW}	years	1	NMED, 2009
Exposure frequency for construction worker	EF_{CW}	days/year	250	NMED, 2009
Exposure time for construction worker	ET_{CW}	Unitless	0.33	NMED, 2009
Soil ingestion rate for construction worker	IRS_{CW}	mg/day	330	NMED, 2009
Dermal surface area for construction worker	SA_{CW}	cm^2/day	3300	NMED, 2009
Soil adherence factor for construction worker	AF_{CW}	mg/cm^2	0.3	NMED, 2009

Notes:
NMED = New Mexico Environment Department
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
cm^2/day = Square centimeters per day
kg = Kilograms
mg/cm^2 = Milligrams per square centimeter
mg/day = Milligrams per day

Table 8-8(c)
Fate and Transport Parameters for Combined Pathway from Soil
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Value Used	Source
Inverse of the mean concentration at the center of a 0.5-acre - square source for volatilization factor	Q/C_{vol}	g/m^2-s per kg/m^3	68.18	NMED, 2009
Dry soil bulk density	ρ_b	g/cm^3	1.5	NMED, 2009
Total soil porosity	n	unitless	0.43	NMED, 2009
Water-filled soil porosity	θ_{wv}	cm^3/cm^3	0.26	NMED, 2009
Inverse of the mean concentration at the center of a 0.5-acre - square source for particulate emission factor	Q/C_{cw}	g/m^2-s per kg/m^3	23.02	NMED, 2009
Dispersion correction factor	F_D	Unitless	0.185	NMED, 2009
Total time over which construction occurs	T	s	7,200,000	NMED, 2009
Surface area of road segment	A_R	m^2	274.2	NMED, 2009
Mean vehicle weight	W	tons	8	NMED, 2009
Number of days with at least 0.01 inches of precipitation	P	days/year	60	NMED, 2009
Sum of fleet vehicle kilometers traveled during exposure duration	$\sum$ VKT	km	168.75	NMED, 2009

Notes:
NMED = New Mexico Environment Department
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
cm^3/cm^3 = Cubic centimeters per cubic centimeter
kg/m^3 = Kilograms per cubic meter
g/cm^3 = Grams per cubic centimeter
g/m^2-s = Grams per square meter-second
km = Kilometers
m^2 = Square meters
s = Seconds

Table 8-9(a)
Summary of Calculated Risk for Current Commercial/Industrial Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPCs	Outdoor Inhalation of Vapors from Groundwater				
	Representative Concentration (mg/L)	Target Level (mg/L)		Risk	
		Carcinogenic	Non-carcinogenic	Carcinogenic	Non-carcinogenic
Acetone	0.0175	NA	NOC	N/A	N/A
Acrolein	0.0128	NA	5.51E+01	N/A	2.3E-04
Acrylonitrile	0.0071	2.30E+03	1.12E+04	3.08E-11	6.3E-07
Carbon disulfide	0.0013	NA	NOC	N/A	N/A
Hexane	0.0011	NA	NOC	N/A	N/A
Isopropylbenzene	0.0015	NA	NOC	N/A	N/A
Methyl ethyl ketone	0.0048	NA	NOC	N/A	N/A
n-Propylbenzene	0.0015	NA	NOC	N/A	N/A
1,2,4-Trimethylbenzene	0.0093	NA	NOC	N/A	N/A
1,3,5-Trimethylbenzene	0.0047	NA	NOC	N/A	N/A
Xylenes	0.0497	NA	NOC	N/A	N/A
2,4-Dimethylphenol	0.0028	Not Volatile	Not Volatile	N/A	N/A
Benzyl Alcohol	0.0024	Not Volatile	Not Volatile	N/A	N/A
Di-n-butyl phthalate	0.0024	Not Volatile	Not Volatile	N/A	N/A
Diethyl phthalate	0.0029	Not Volatile	Not Volatile	N/A	N/A
bis(2-Ethylhexyl)phthalate	0.0025	Not Volatile	Not Volatile	N/A	N/A
Arsenic	0.0134	Not Volatile	Not Volatile	N/A	N/A
Iron	1.31	Not Volatile	Not Volatile	N/A	N/A
Manganese	0.6104	Not Volatile	Not Volatile	N/A	N/A
Thallium	0.0079	Not Volatile	Not Volatile	N/A	N/A
Vanadium	0.0485	Not Volatile	Not Volatile	N/A	N/A
		Cumulative Risks		**3.1E-11**	**2.3E-04**

Notes:
COPCs = Chemicals of potential concern
mg/L = Milligrams per liter
N/A = Not applicable
NA = Not available
NOC = Not of concern since calculated target concentration exceeds water solubility

Table 8-9(b)
Summary of Calculated Risk for Future Resident
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPCs	Indoor Inhalation of Vapors from Groundwater				
	Representative Concentration (mg/L)	Target Level (mg/L)		Carcinogenic Risk	Non-carcinogenic Risk
		Carcinogenic	Non-carcinogenic		
Acetone	0.0855	NA	5.12E+04	N/A	1.7E-06
Acrolein	0.0122	NA	1.53E-02	N/A	7.9E-01
Acrylonitrile	0.0360	5.51E-02	3.21E+00	6.53E-06	1.1E-02
Carbon disulfide	0.0056	NA	3.76E+01	N/A	1.5E-04
Hexane	0.0030	NA	5.75E-01	N/A	5.2E-03
Isopropylbenzene	0.0148	NA	4.54E+01	N/A	3.3E-04
Methyl ethyl ketone	0.0330	NA	7.84E+03	N/A	4.2E-06
n-Propylbenzene	0.0154	NA	NOC	N/A	N/A
1,2,4-Trimethylbenzene	0.1250	NA	1.20E+00	N/A	1.0E-01
1,3,5-Trimethylbenzene	0.0568	NA	8.19E-01	N/A	6.9E-02
Xylenes	0.7250	NA	1.23E+01	N/A	5.9E-02
2,4-Dimethylphenol	0.0068	Not Volatile	Not Volatile	N/A	N/A
Benzyl alcohol	0.0010	Not Volatile	Not Volatile	N/A	N/A
Di-n-butyl phthalate	0.0021	Not Volatile	Not Volatile	N/A	N/A
Diethyl phthalate	0.0058	Not Volatile	Not Volatile	N/A	N/A
bis(2-Ethylhexyl)phthalate	0.0029	Not Volatile	Not Volatile	N/A	N/A
Arsenic	0.0290	Not Volatile	Not Volatile	N/A	N/A
Iron	13.60	Not Volatile	Not Volatile	N/A	N/A
Manganese	2.4900	Not Volatile	Not Volatile	N/A	N/A
Thallium	0.0042	Not Volatile	Not Volatile	N/A	N/A
Vanadium	0.1430	Not Volatile	Not Volatile	N/A	N/A
		Cumulative Risks		**6.5E-06**	**1.0E+00**

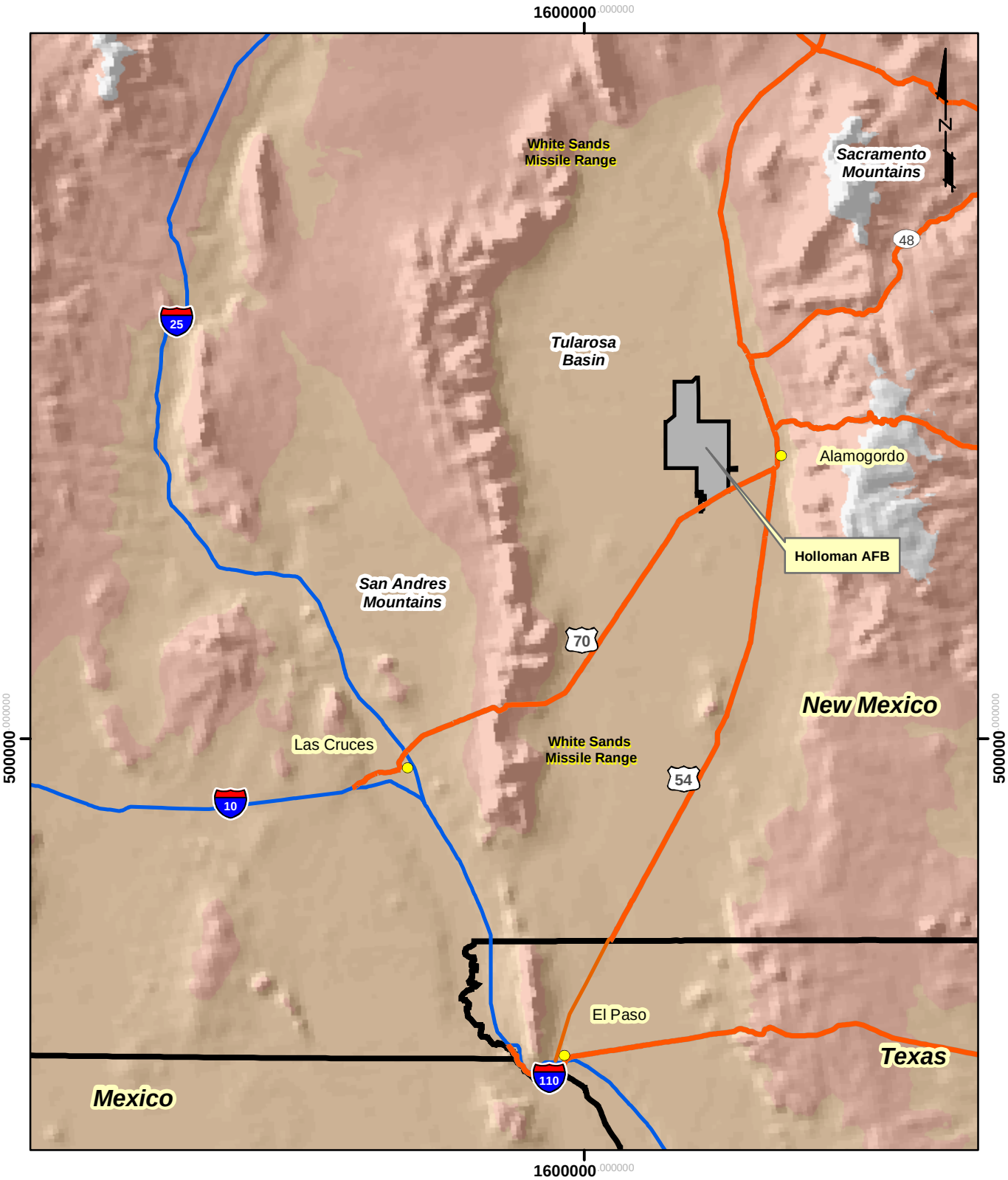
Notes:
COPCs = Chemicals of potential concern
mg/L = Milligrams per liter
N/A = Not applicable
NA = Not available
NOC = Not of concern since calculated target concentration exceeds water solubility

Table 8-9(c)
Summary of Calculated Risk for Future Construction Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPCs	Combined Pathway from Soil				
	Represenatative Concentration (mg/kg)	Target Level (mg/kg)		Risk	
		Carcinogenic	Non-carcinogenic	Carcinogenic	Non-carcinogenic
Arsenic	3.91	1.22E+02	5.28E+01	3.2E-07	7.4E-02
Magnesium	8,653	NA	NA	N/A	N/A
		Cumulative Risks		**3.2E-07**	**7.4E-02**

Notes:
COPCs = Chemicals of potential concern
mg/kg = Milligrams per kilogram
N/A = Not applicable
NA = Not available

FIGURES



0 4.5 9 18 27 36 Miles

Note: Projection-New Mexico State Plane Coordinate System, Central Zone, North American Horizontal Datum 1983 (feet).

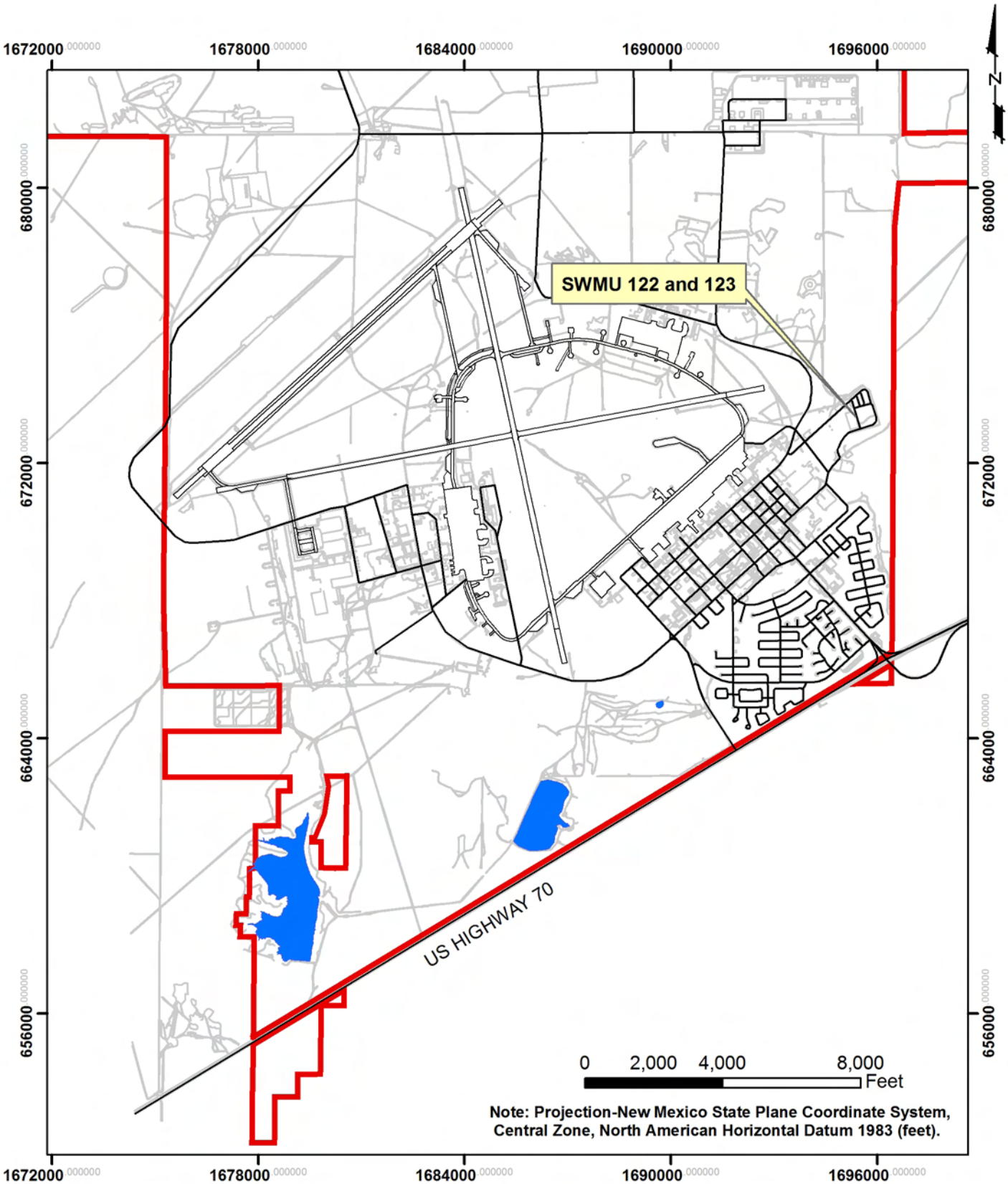
NATIONVIEW

Holloman AFB, New Mexico Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=18 Miles	9/28/10	cm
			DRAWING NO: Figure 2-1

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 2-1

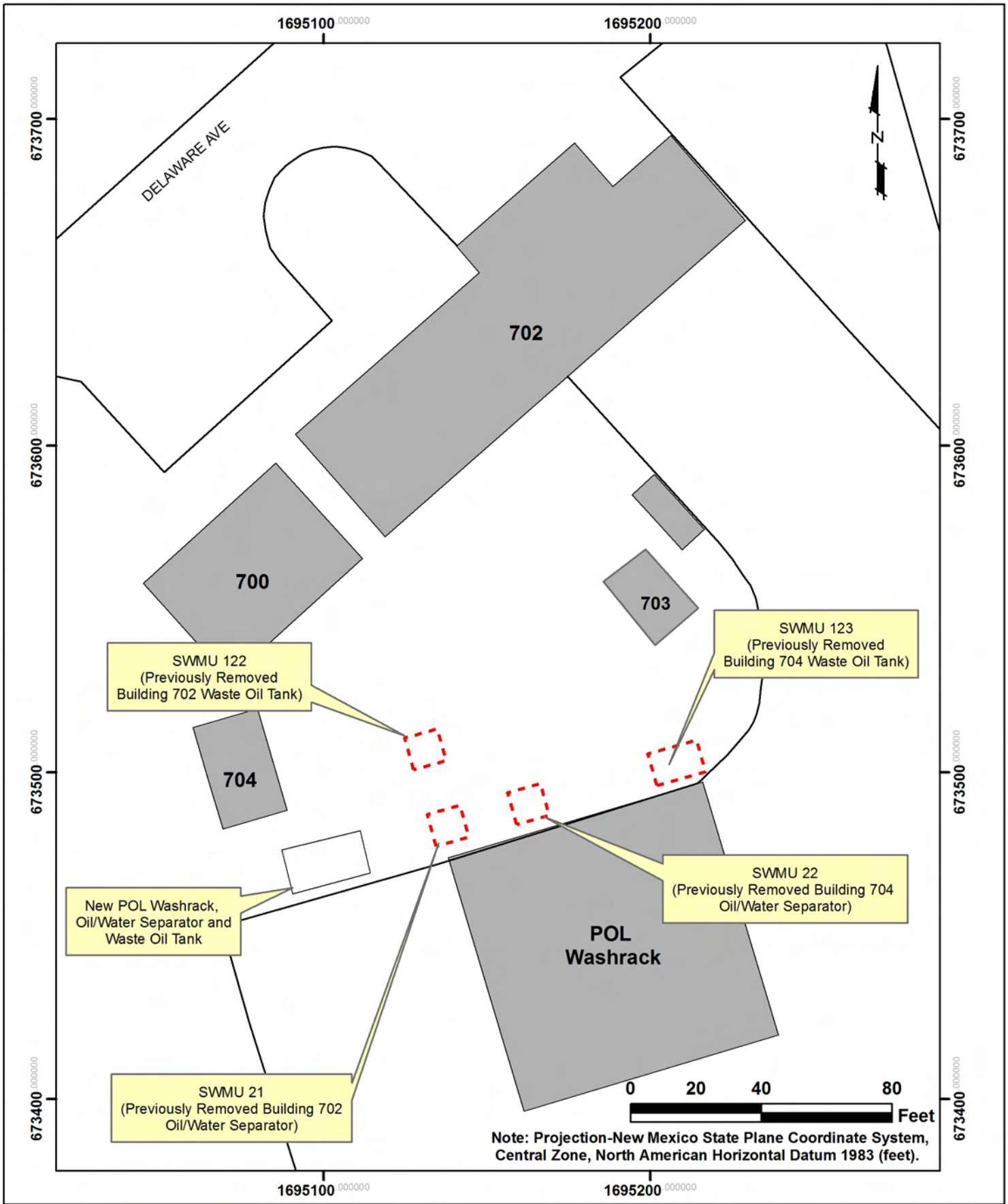


NATIONVIEW

SWMU 122 and 123 Site Location Map			
PROJECT NO. 8080014	SCALE 1"=4000'	DATE 7/20/09	DRAWN BY: cm DRAWING NO: Figure 2-2

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 2-2



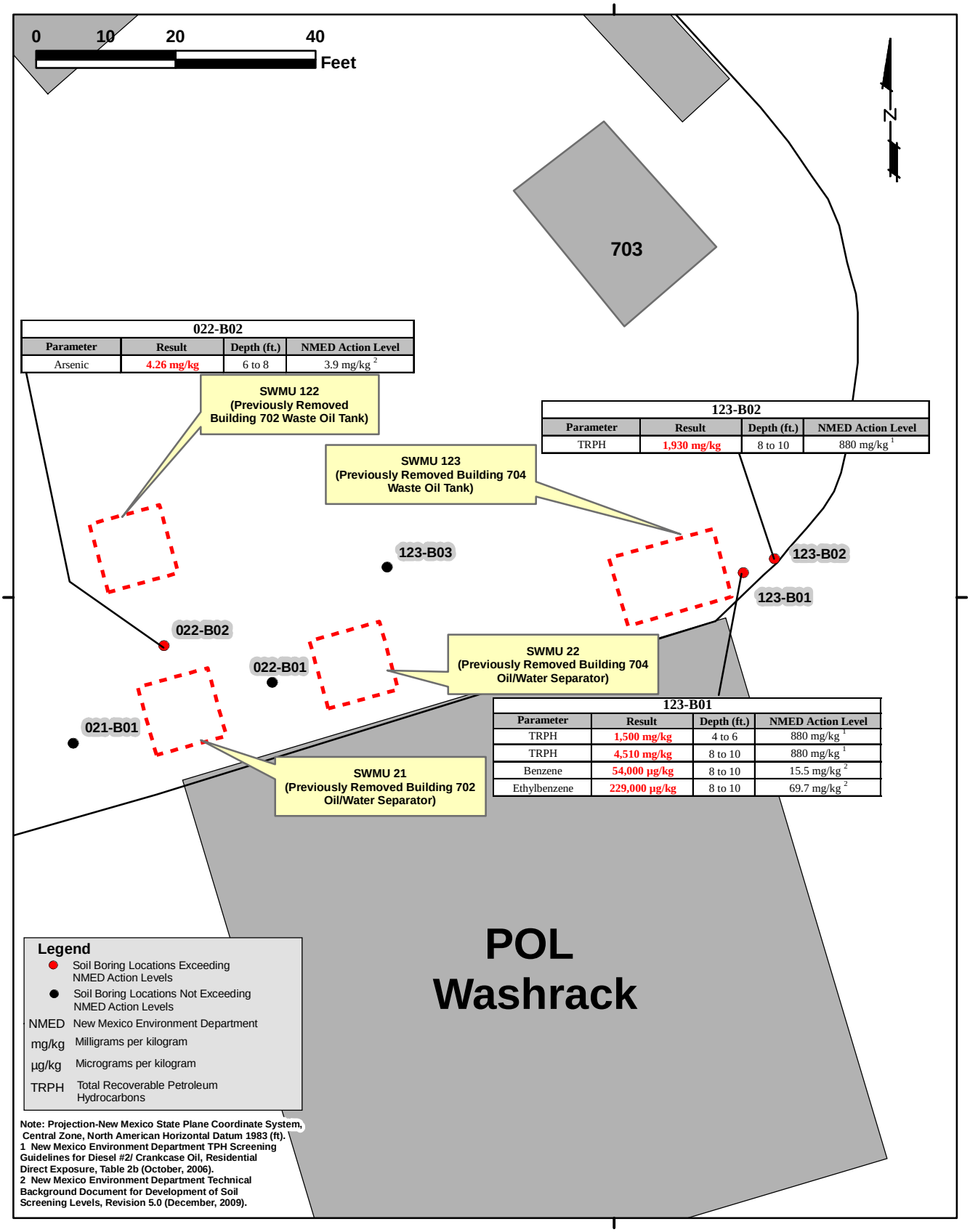
NATIONVIEW

SWMU 122 and 123
Site Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=40'	7/20/09	cm
			DRAWING NO: fig_2-3

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 2-3



022-B02

Parameter	Result	Depth (ft.)	NMED Action Level
Arsenic	4.26 mg/kg	6 to 8	3.9 mg/kg [2]

123-B02

Parameter	Result	Depth (ft.)	NMED Action Level
TRPH	1,930 mg/kg	8 to 10	880 mg/kg [1]

123-B01

Parameter	Result	Depth (ft.)	NMED Action Level
TRPH	1,500 mg/kg	4 to 6	880 mg/kg [1]
TRPH	4,510 mg/kg	8 to 10	880 mg/kg [1]
Benzene	54,000 µg/kg	8 to 10	15.5 mg/kg [2]
Ethylbenzene	229,000 µg/kg	8 to 10	69.7 mg/kg [2]

Legend

- Soil Boring Locations Exceeding NMED Action Levels
- Soil Boring Locations Not Exceeding NMED Action Levels
- NMED New Mexico Environment Department
- mg/kg Milligrams per kilogram
- µg/kg Micrograms per kilogram
- TRPH Total Recoverable Petroleum Hydrocarbons

Note: Projection-New Mexico State Plane Coordinate System, Central Zone, North American Horizontal Datum 1983 (ft).
1 New Mexico Environment Department TPH Screening Guidelines for Diesel #2/ Crankcase Oil, Residential Direct Exposure, Table 2b (October, 2006).
2 New Mexico Environment Department Technical Background Document for Development of Soil Screening Levels, Revision 5.0 (December, 2009).

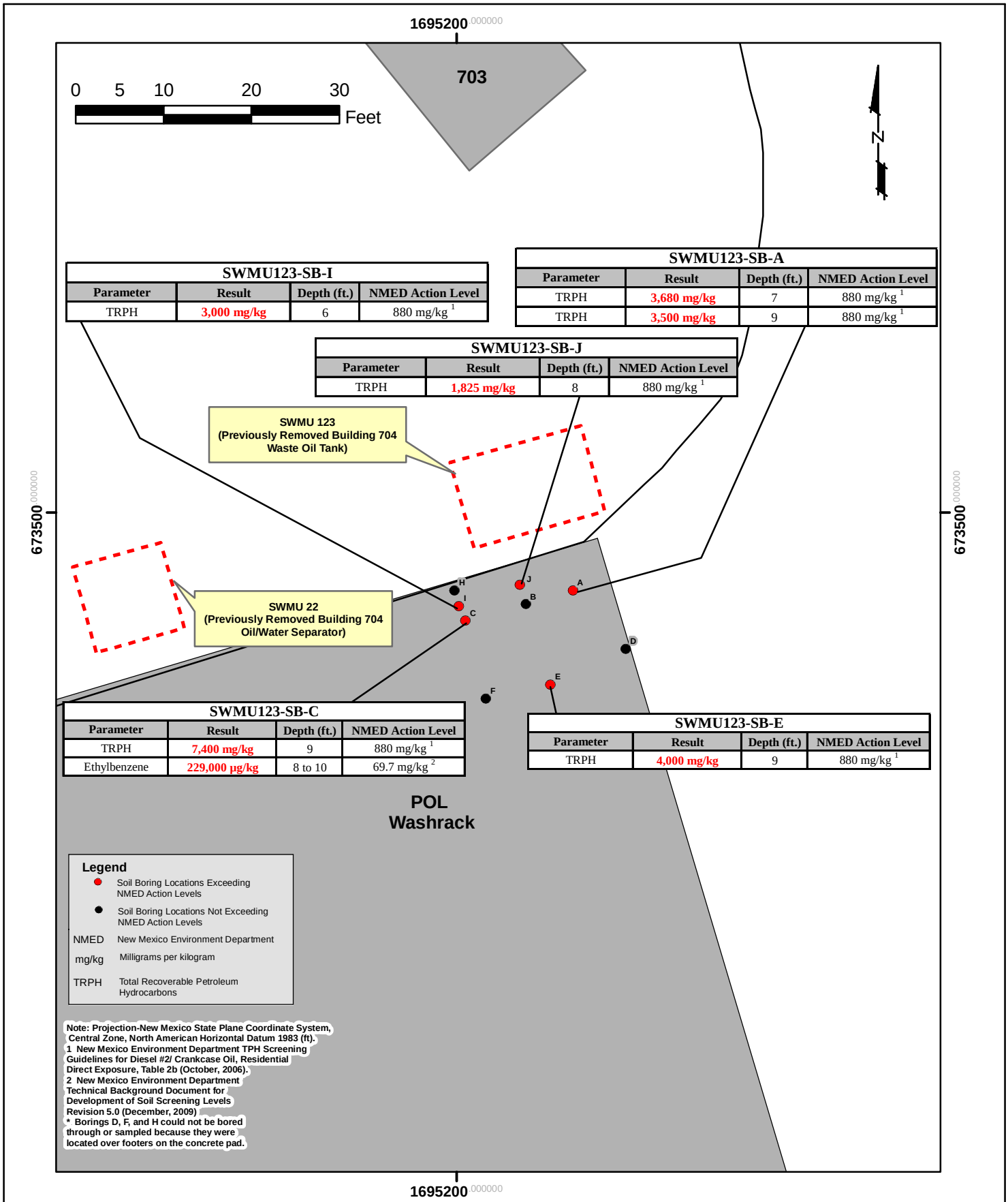
NATIONVIEW

SWMU 123 Soil Analytical Results Above NMED Action Levels (Radian, 1993)

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=20'	4/12/12	cm
			DRAWING NO: fig_2-4

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 2-4



SWMU123-SB-I

Parameter	Result	Depth (ft.)	NMED Action Level
TRPH	3,000 mg/kg	6	880 mg/kg [1]

SWMU123-SB-A

Parameter	Result	Depth (ft.)	NMED Action Level
TRPH	3,680 mg/kg	7	880 mg/kg [1]
TRPH	3,500 mg/kg	9	880 mg/kg [1]

SWMU123-SB-J

Parameter	Result	Depth (ft.)	NMED Action Level
TRPH	1,825 mg/kg	8	880 mg/kg [1]

SWMU123-SB-C

Parameter	Result	Depth (ft.)	NMED Action Level
TRPH	7,400 mg/kg	9	880 mg/kg [1]
Ethylbenzene	229,000 µg/kg	8 to 10	69.7 mg/kg [2]

SWMU123-SB-E

Parameter	Result	Depth (ft.)	NMED Action Level
TRPH	4,000 mg/kg	9	880 mg/kg [1]

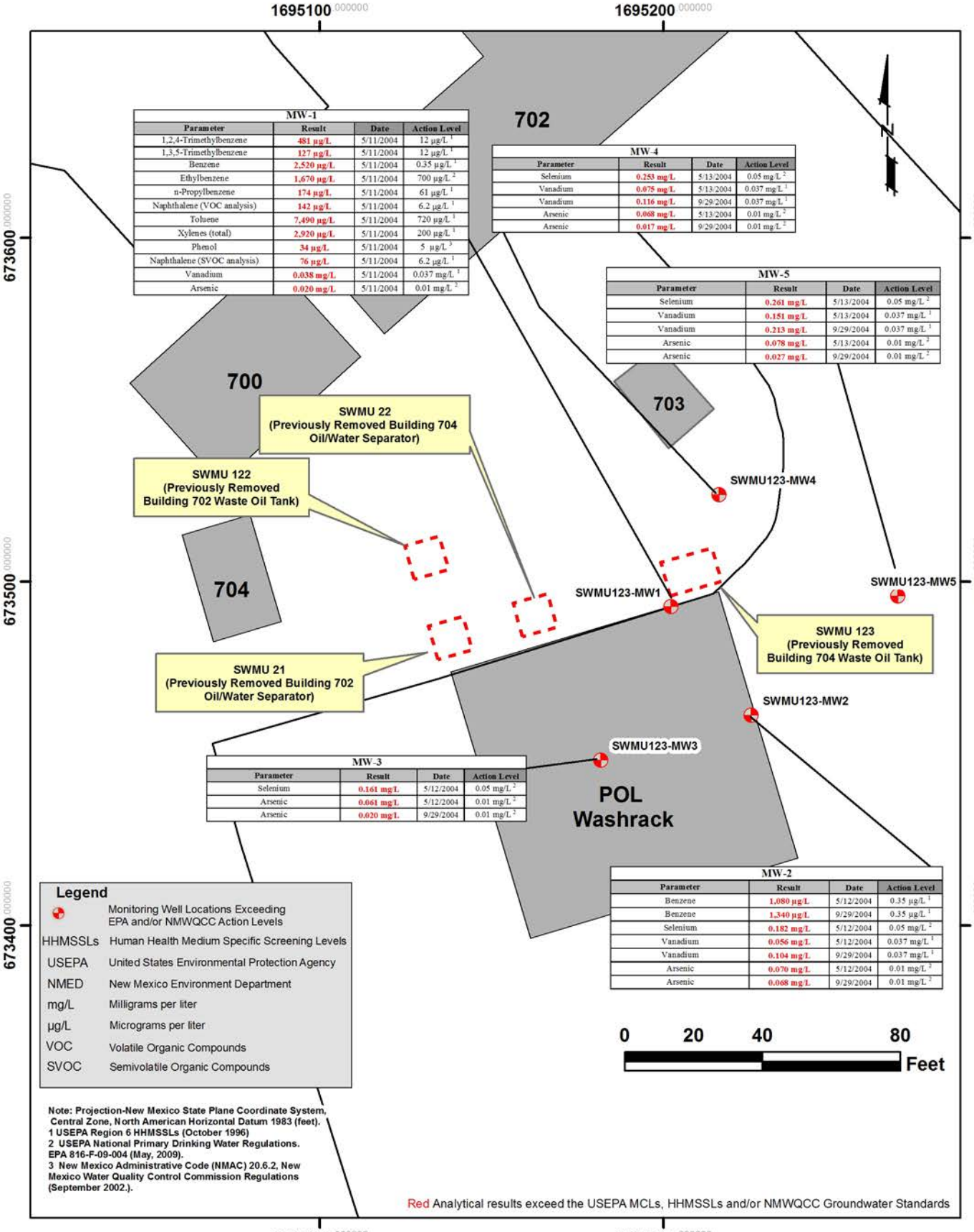
NATIONVIEW

SWMU 123 Soil Analytical Results Above NMED Action Levels (Foster Wheeler Environmental Corporation, 1999)

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=15'	4/12/12	cm
			DRAWING NO: fig_2-5

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 2-5



MW-1			
Parameter	Result	Date	Action Level
1,2,4-Trimethylbenzene	481 µg/L	5/11/2004	12 µg/L [1]
1,3,5-Trimethylbenzene	127 µg/L	5/11/2004	12 µg/L [1]
Benzene	2,520 µg/L	5/11/2004	0.35 µg/L [1]
Ethylbenzene	1,670 µg/L	5/11/2004	700 µg/L [2]
n-Propylbenzene	174 µg/L	5/11/2004	61 µg/L [1]
Naphthalene (VOC analysis)	142 µg/L	5/11/2004	6.2 µg/L [1]
Toluene	7,490 µg/L	5/11/2004	720 µg/L [1]
Xylenes (total)	2,920 µg/L	5/11/2004	200 µg/L [1]
Phenol	34 µg/L	5/11/2004	5 µg/L [2]
Naphthalene (SVOC analysis)	76 µg/L	5/11/2004	6.2 µg/L [1]
Vanadium	0.038 mg/L	5/11/2004	0.037 mg/L [1]
Arsenic	0.020 mg/L	5/11/2004	0.01 mg/L [2]

MW-4			
Parameter	Result	Date	Action Level
Selenium	0.253 mg/L	5/13/2004	0.05 mg/L [2]
Vanadium	0.075 mg/L	5/13/2004	0.037 mg/L [1]
Vanadium	0.116 mg/L	9/29/2004	0.037 mg/L [1]
Arsenic	0.068 mg/L	5/13/2004	0.01 mg/L [2]
Arsenic	0.017 mg/L	9/29/2004	0.01 mg/L [2]

MW-5			
Parameter	Result	Date	Action Level
Selenium	0.261 mg/L	5/13/2004	0.05 mg/L [2]
Vanadium	0.151 mg/L	5/13/2004	0.037 mg/L [1]
Vanadium	0.213 mg/L	9/29/2004	0.037 mg/L [1]
Arsenic	0.078 mg/L	5/13/2004	0.01 mg/L [2]
Arsenic	0.027 mg/L	9/29/2004	0.01 mg/L [2]

MW-3			
Parameter	Result	Date	Action Level
Selenium	0.161 mg/L	5/12/2004	0.05 mg/L [2]
Arsenic	0.061 mg/L	5/12/2004	0.01 mg/L [2]
Arsenic	0.020 mg/L	9/29/2004	0.01 mg/L [2]

MW-2			
Parameter	Result	Date	Action Level
Benzene	1,080 µg/L	5/12/2004	0.35 µg/L [1]
Benzene	1,340 µg/L	9/29/2004	0.35 µg/L [1]
Selenium	0.182 mg/L	5/12/2004	0.05 mg/L [2]
Vanadium	0.056 mg/L	5/12/2004	0.037 mg/L [1]
Vanadium	0.104 mg/L	9/29/2004	0.037 mg/L [1]
Arsenic	0.070 mg/L	5/12/2004	0.01 mg/L [2]
Arsenic	0.068 mg/L	9/29/2004	0.01 mg/L [2]

Legend

- Monitoring Well Locations Exceeding EPA and/or NMWQCC Action Levels
- HHMSSLs — Human Health Medium Specific Screening Levels
- USEPA — United States Environmental Protection Agency
- NMED — New Mexico Environment Department
- mg/L — Milligrams per liter
- µg/L — Micrograms per liter
- VOC — Volatile Organic Compounds
- SVOC — Semivolatile Organic Compounds

Note: Projection-New Mexico State Plane Coordinate System, Central Zone, North American Horizontal Datum 1983 (feet).
1 USEPA Region 6 HHMSSLs (October 1996)
2 USEPA National Primary Drinking Water Regulations. EPA 816-F-09-004 (May, 2009).
3 New Mexico Administrative Code (NMAC) 20.6.2, New Mexico Water Quality Control Commission Regulations (September 2002.).

Red Analytical results exceed the USEPA MCLs, HHMSSLs and/or NMWQCC Groundwater Standards

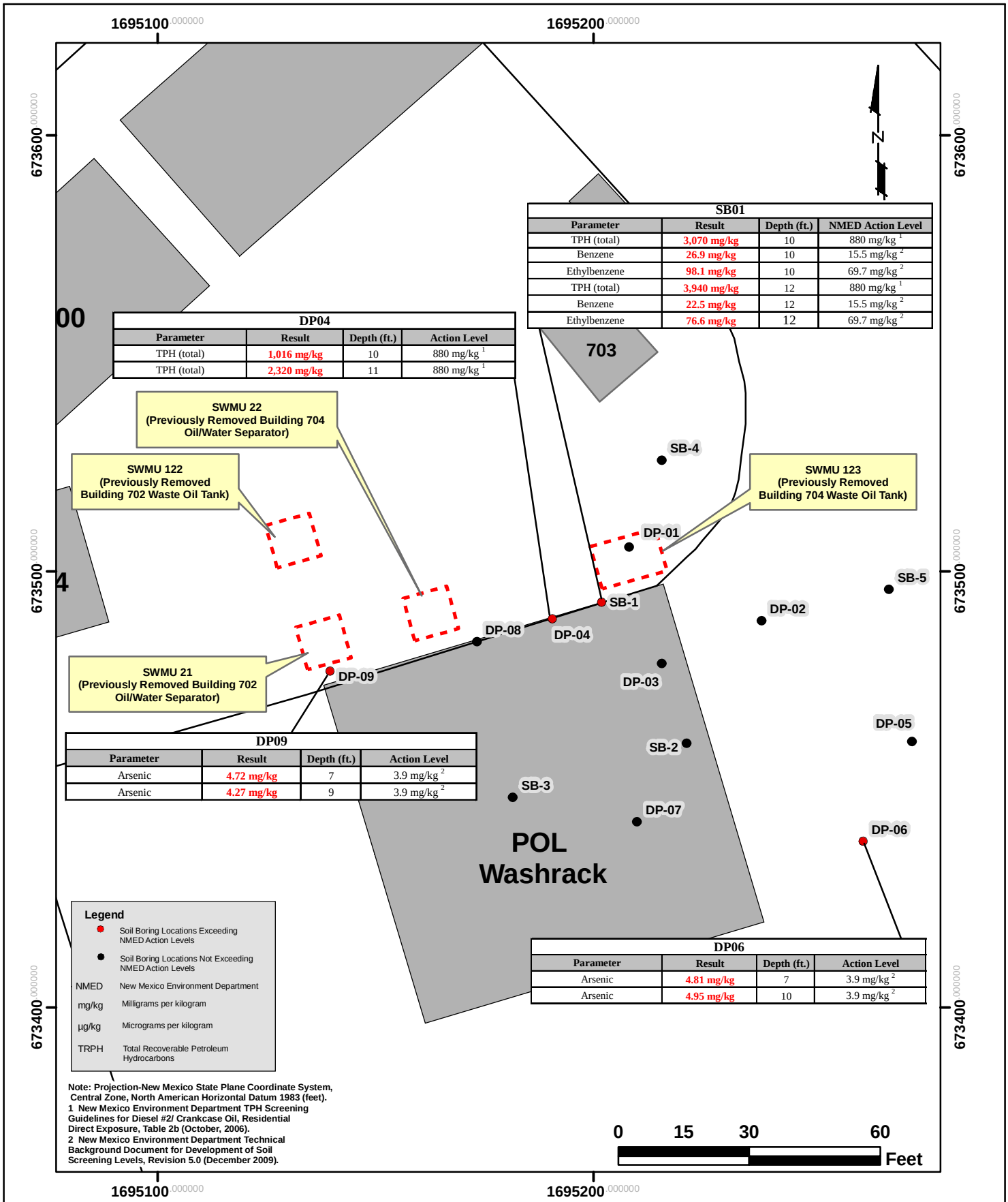
NATIONVIEW

SWMU 123 Groundwater Analytical Results Above EPA and NMED Action Levels (Bhate, 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=40'	4/13/12	cm
			DRAWING NO: fig_2-6

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 2-6



NATIONVIEW

SWMU 123 Soil Analytical Results Above NMED Action Levels (Bhate, 2004)

PROJECT NO.	SCALE	DATE	DRAWN BY:
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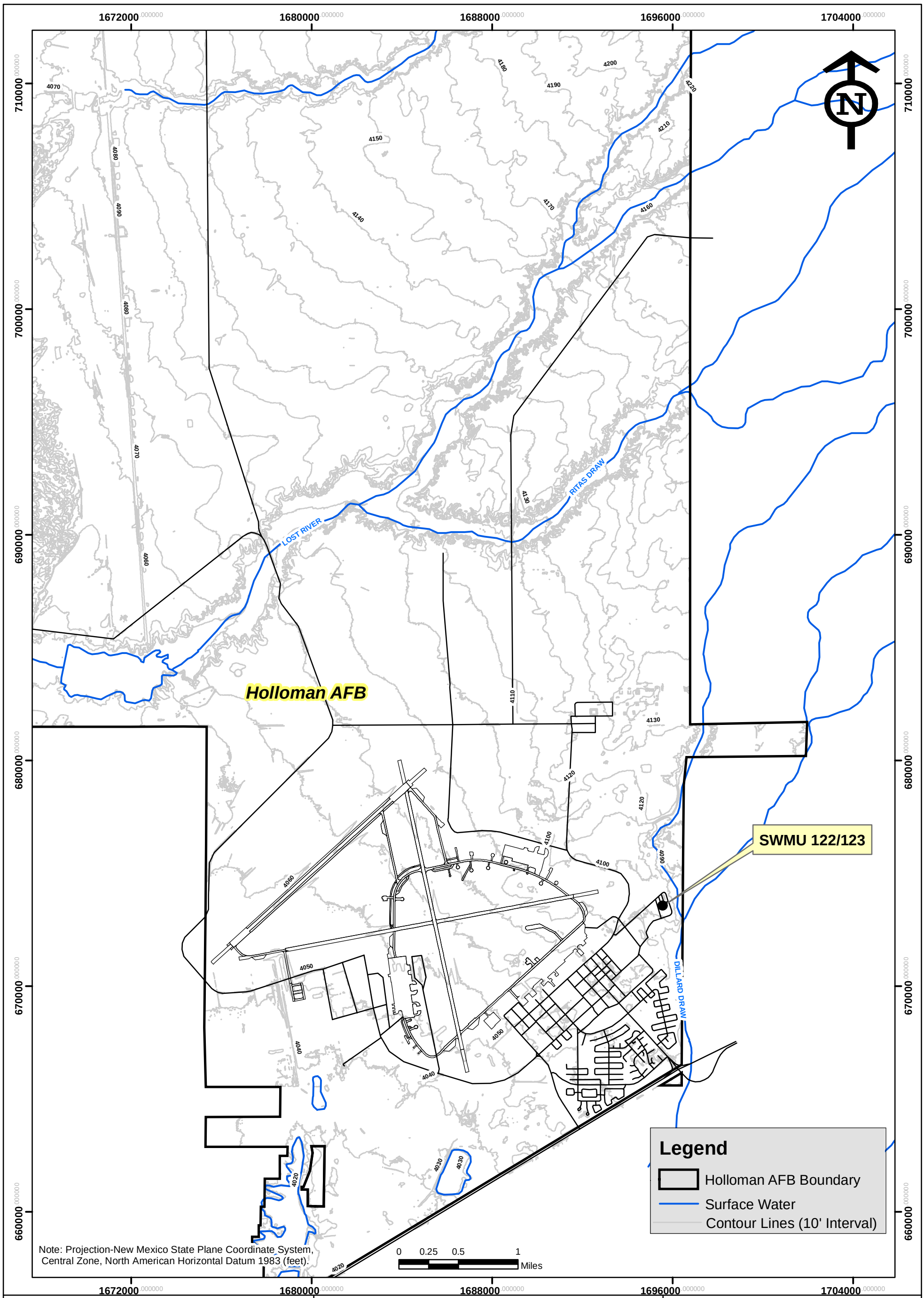
			DRAWING NO: fig_2-7

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 2-7



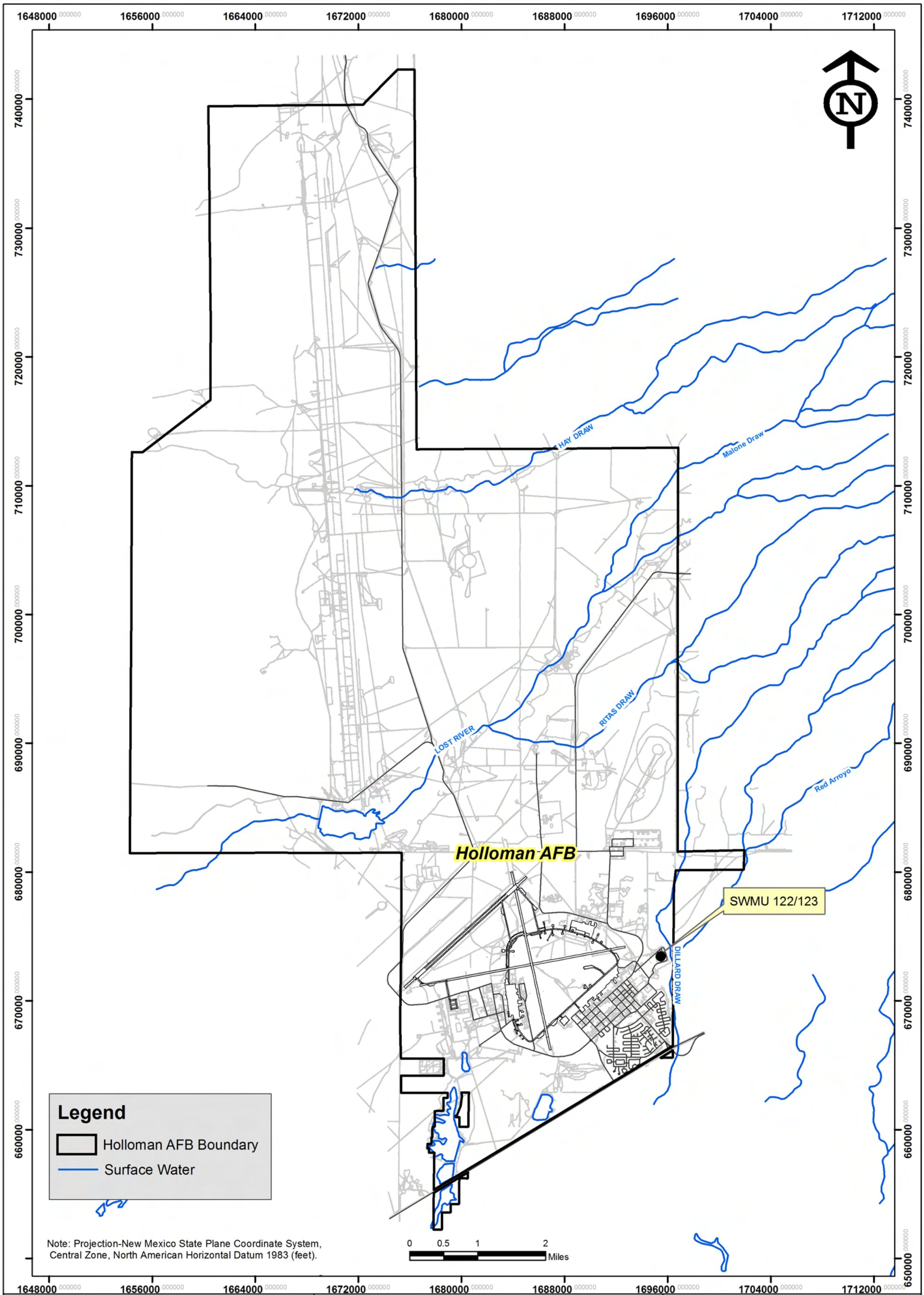
NATIONVIEW

Topographic Map
Holloman AFB, New Mexico

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
8080014	1"=4000'	9/28/10	DRAWING NO: Figure 3-1

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 3-1



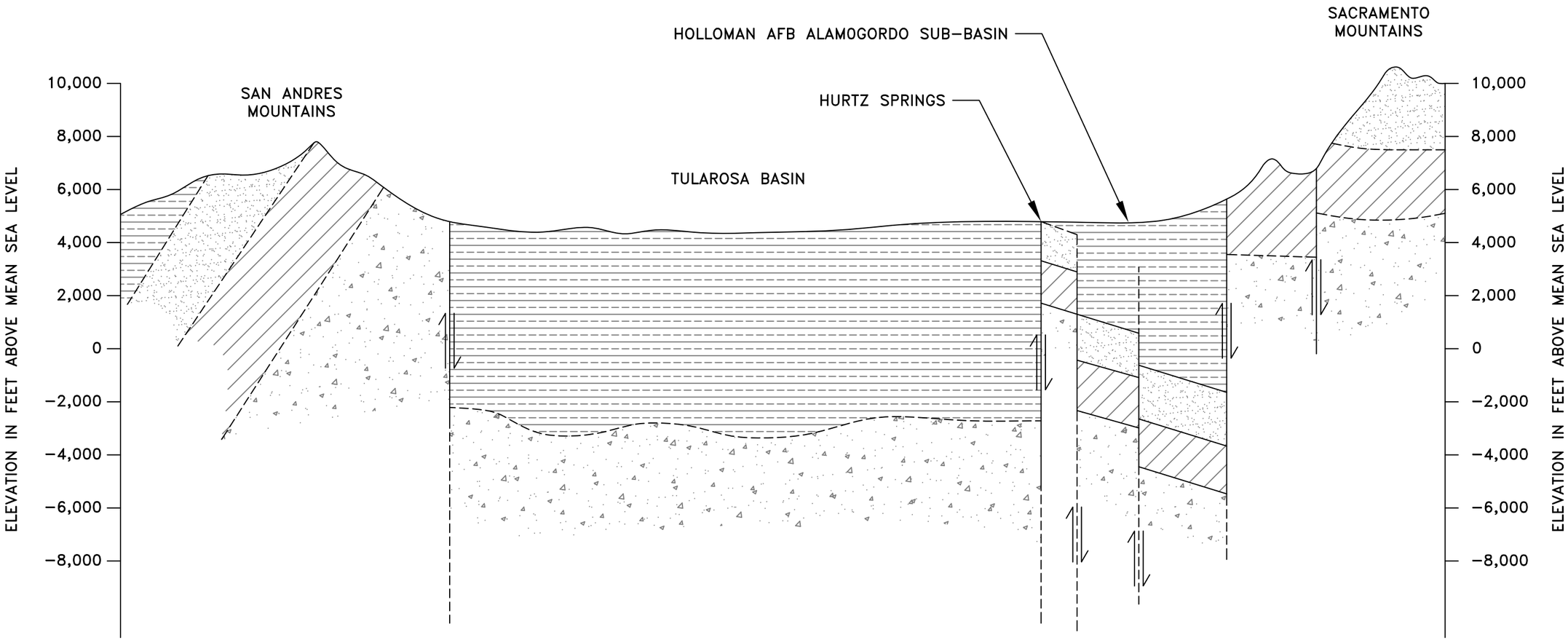
NATIONVIEW

Surface Drainages
Holloman AFB, New Mexico

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
8080014	1"=7000'	7/24/09	DRAWING NO: Figure 3-2

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 3-2



LEGEND:

- CENOZOIC ALLUVIUM AND LAKE DEPOSITS
- SEDIMENTARY ROCK OF PERMIAN AGE
- SEDIMENTARY ROCKS OF CAMBRIAN, ORDOVICIAN, SILURIAN, DEVONIAN, MISSISSIPPIAN AND PENNSYLVANIAN AGE
- INTRUSIVE ROCKS OF TERTIARY, CRETACEOUS OR PRECAMBRIAN AGE
- FAULT, ARROWS INDICATE RELATIVE MOVEMENT

NOTES:

This information is depicted to provide visual aid within the context of this report and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0 5 10

SCALE IN MILES:

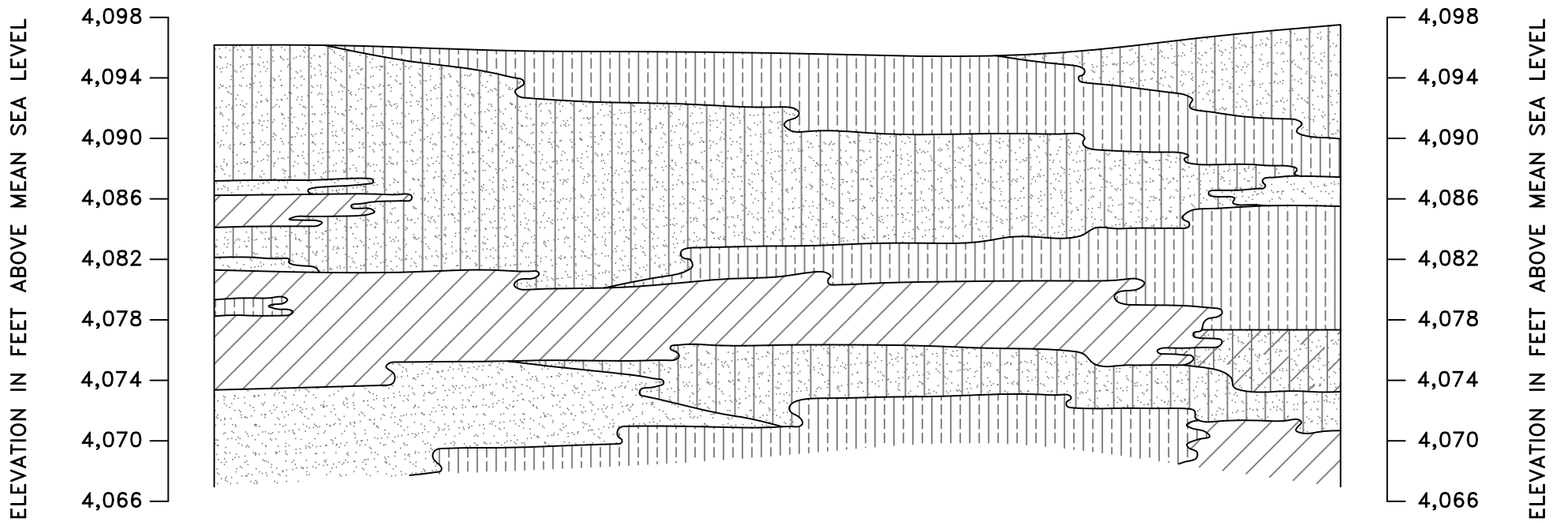
SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 3-3

GENERALIZED GEOLOGIC CROSS SECTION OF THE TULAROSA BASIN

PROJECT NO.	SCALE	DATE	DRAWN BY:	DRAWING NO:
8080014	SHOWN	7/28/09	MRM	Figure 3-3

NATIONVIEW



LEGEND:

- CL AND CH – CLAY
- ML AND MH – SILT
- SM – SILTY SAND
- SM–SC – SILTY, CLAYEY SAND
- SP – SAND

NOTES:

This information is depicted to provide visual aid within the context of this report and should not be used as a sole reference in precise dimensioning of features indicated. Please verify the location of all features including underground and aboveground utilities prior to conducting any subsurface exploration or site assessment.

0' 100' 200'

SCALE IN FEET:

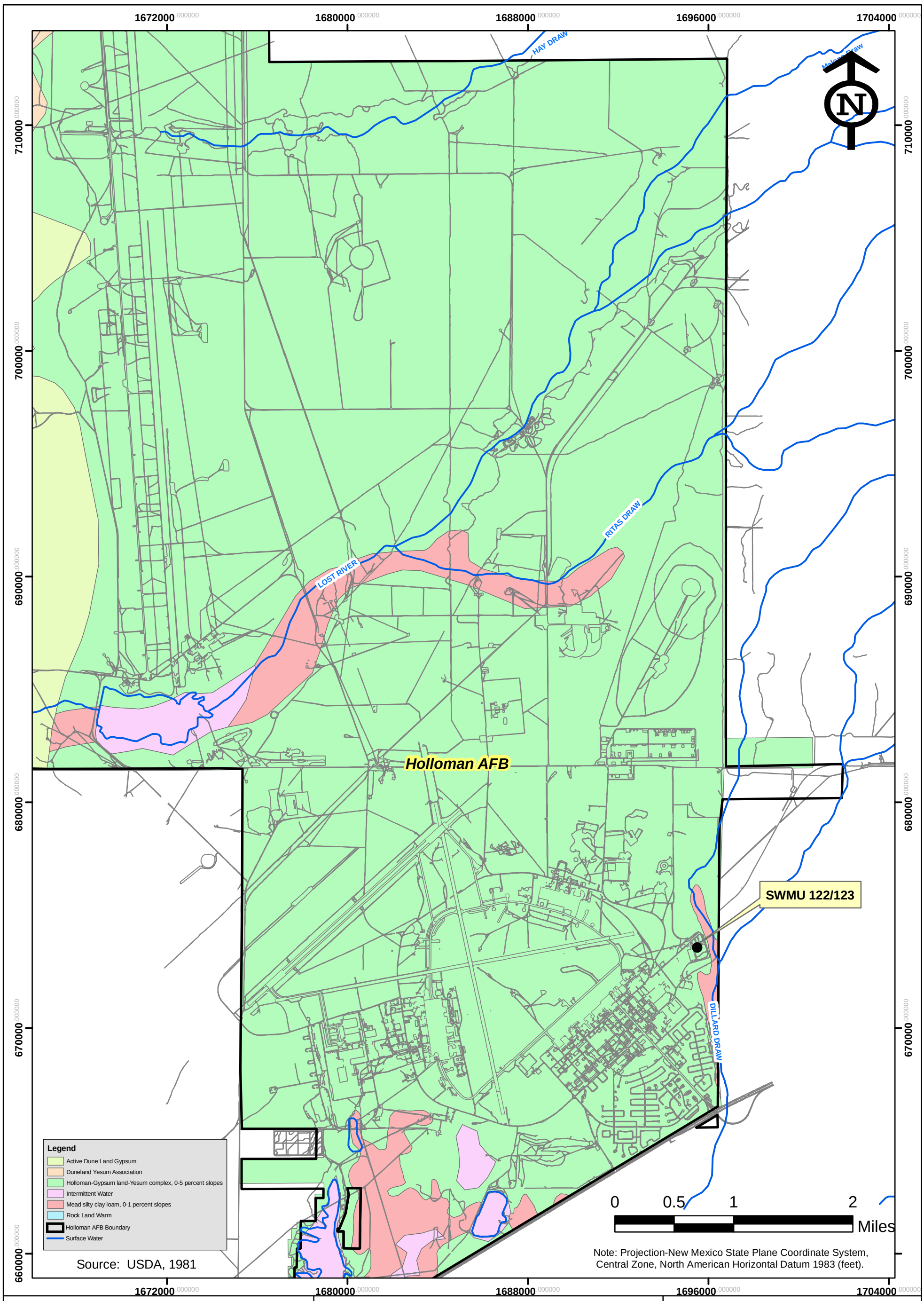
SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 3–4

GENERALIZED NEAR–SURFACE GEOLOGIC CROSS SECTION FOR HOLLOMAN AFB

PROJECT NO.	SCALE	DATE	DRAWN BY:	DRAWING NO:
8080014	SHOWN	7/28/09	MRM	Figure 3–4

NATIONVIEW



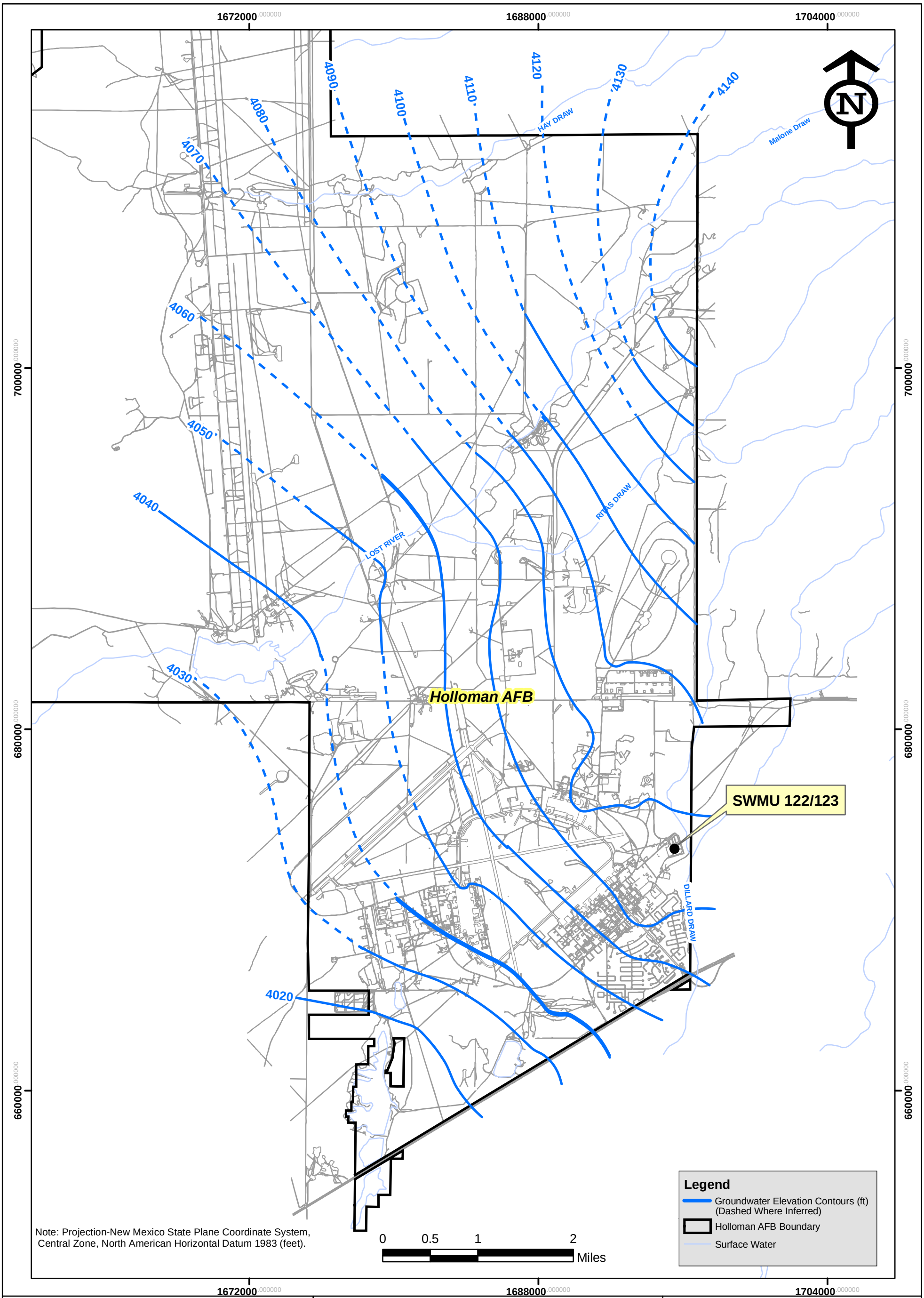
NATIONVIEW

Soil Map
Holloman AFB, New Mexico

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
8080014	1"=4000'	9/28/10	DRAWING NO: Figure 3-5

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 3-5



NATIONVIEW

Groundwater Contour Map
Holloman AFB, New Mexico

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
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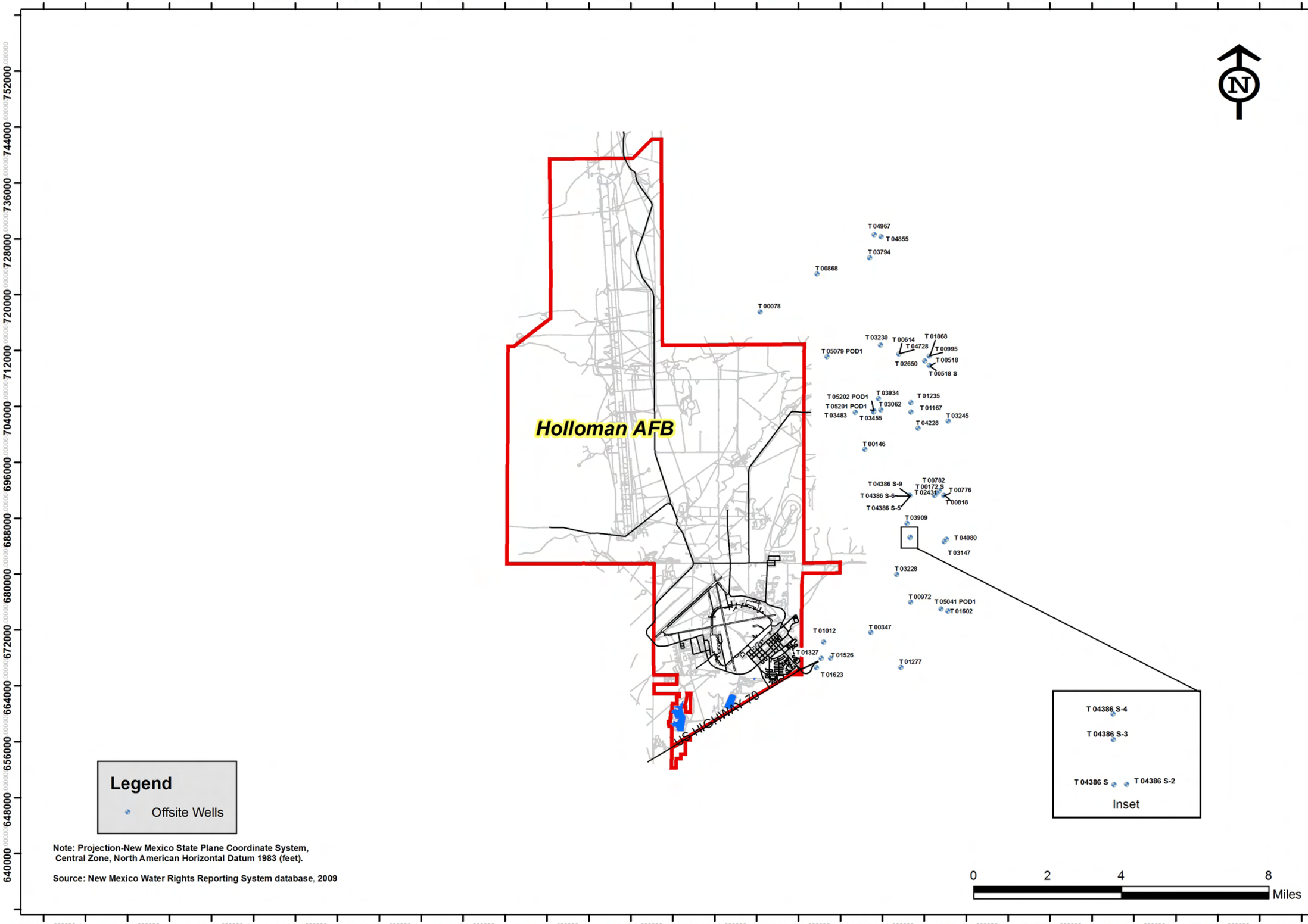
SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 3-6



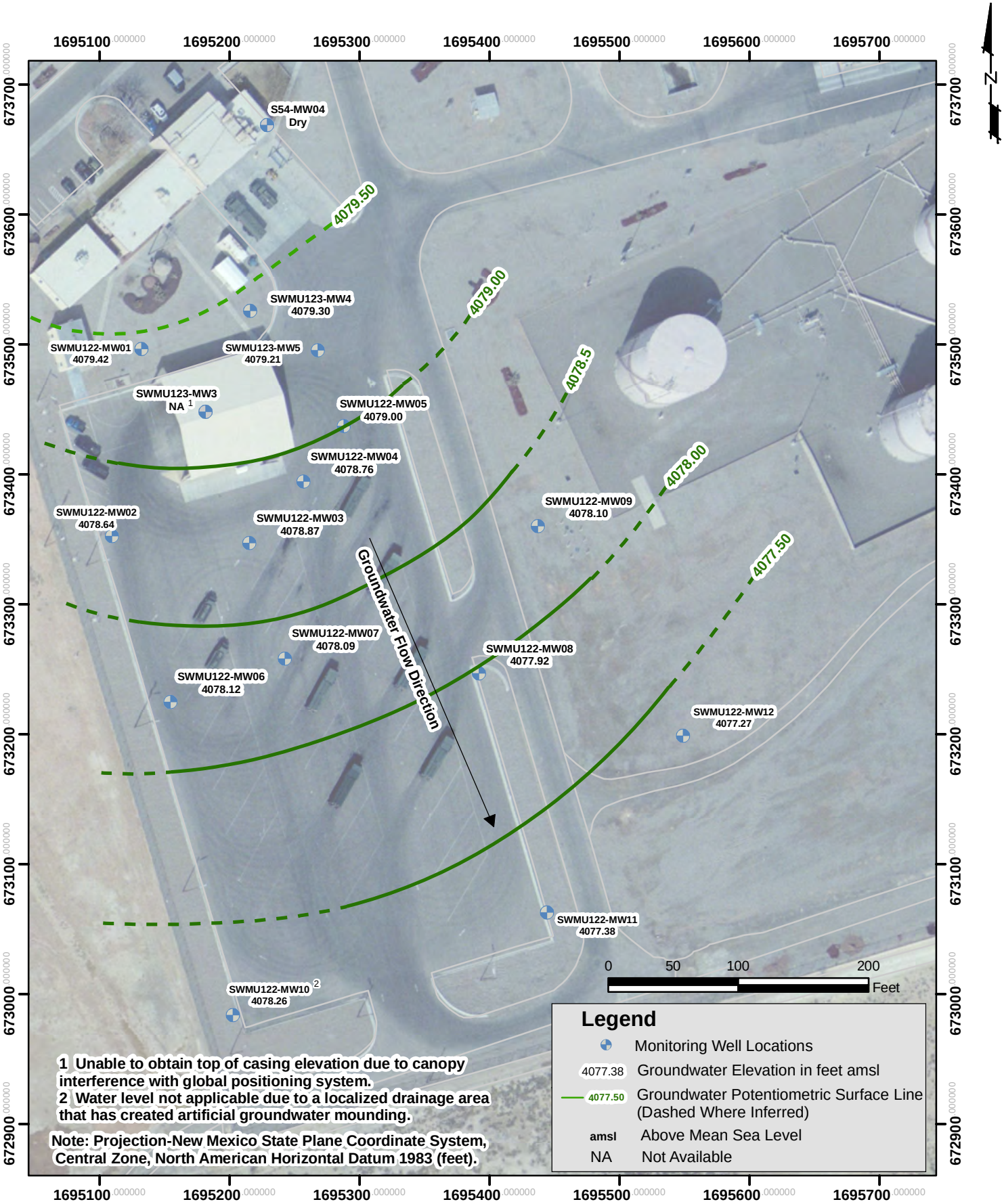
SWMU 122 and 123
RCRA Facility Investigation Report
Holloman Air Force Base, New Mexico

Figure 3-7

Groundwater Wells Located Within a 4-Mile Radius of Holloman AFB

PROJECT NO.	SCALE	DATE	DRAWN BY:	DRAWING NO:
8080014	Shown	7/29/09	cm	Figure 3-7

NATIONVIEW



NATIONVIEW

SWMU 122 and 123
Potentiometric Surface Map
(July 13, 2009)

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=100'	4/12/12	cm
			DRAWING NO. Figure 3-8

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 3-8

NATIONVIEW

SWMU 122 and 123

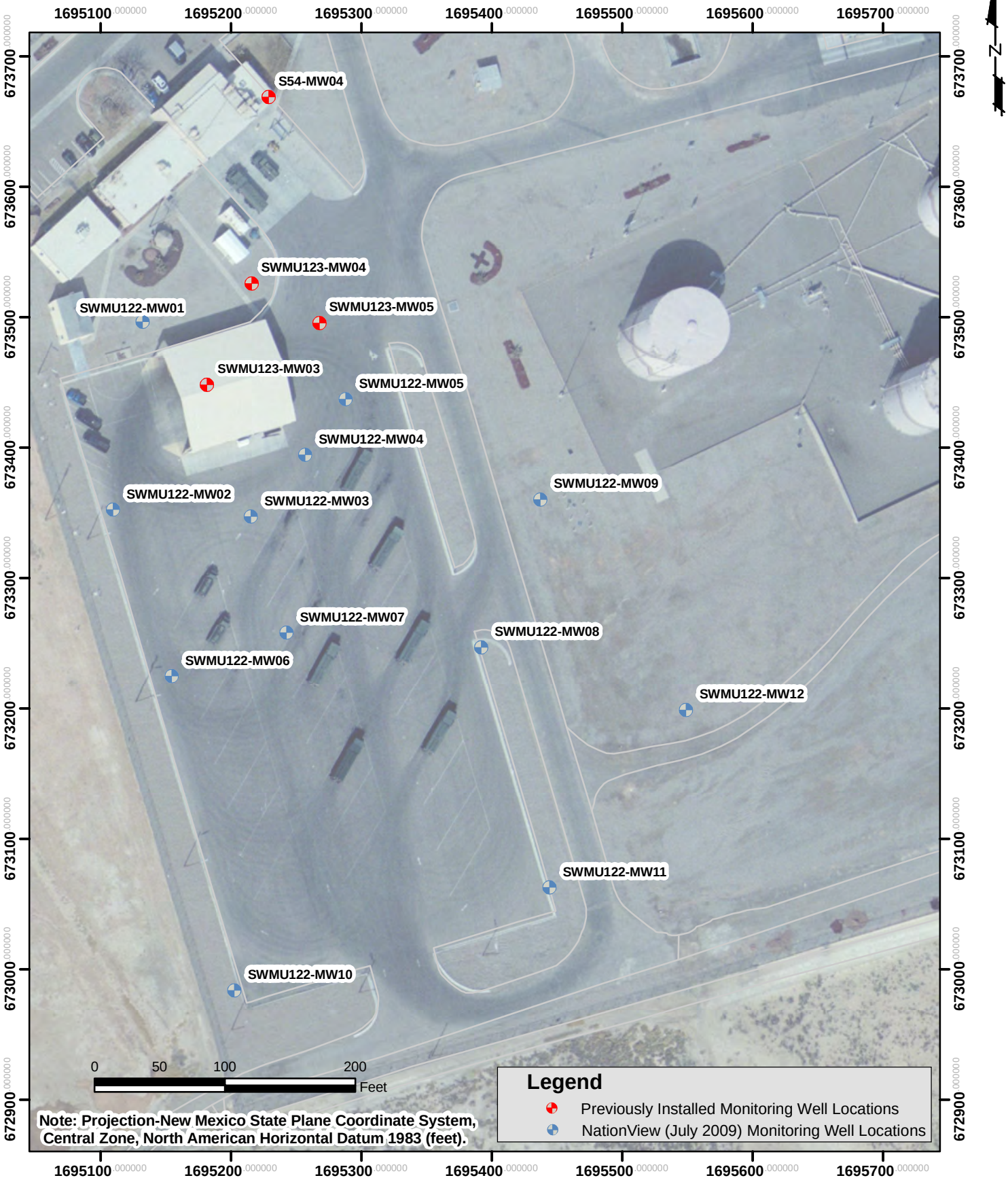
Soil Boring Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=70'	4/12/12	cm

DRAWING NO. Figure 5-1

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 5-1



NATIONVIEW

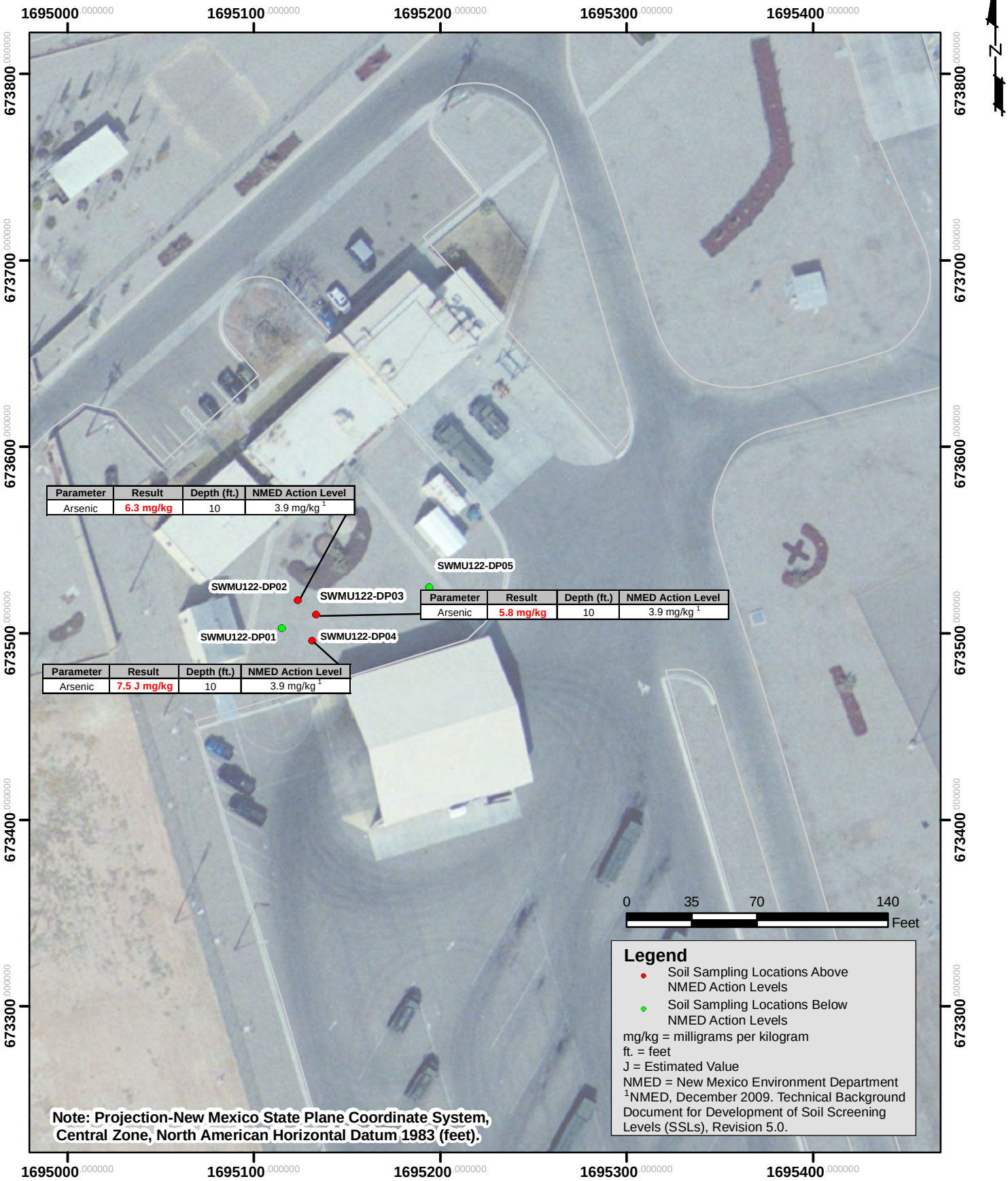
SWMU 122 and 123

Monitoring Well Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=100'	4/12/12	cm
			DRAWING NO. Figure 5-2

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 5-2



Parameter	Result	Depth (ft.)	NMED Action Level
Arsenic	6.3 mg/kg	10	3.9 mg/kg [1]

Parameter	Result	Depth (ft.)	NMED Action Level
Arsenic	5.8 mg/kg	10	3.9 mg/kg [1]

Parameter	Result	Depth (ft.)	NMED Action Level
Arsenic	7.5 J mg/kg	10	3.9 mg/kg [1]

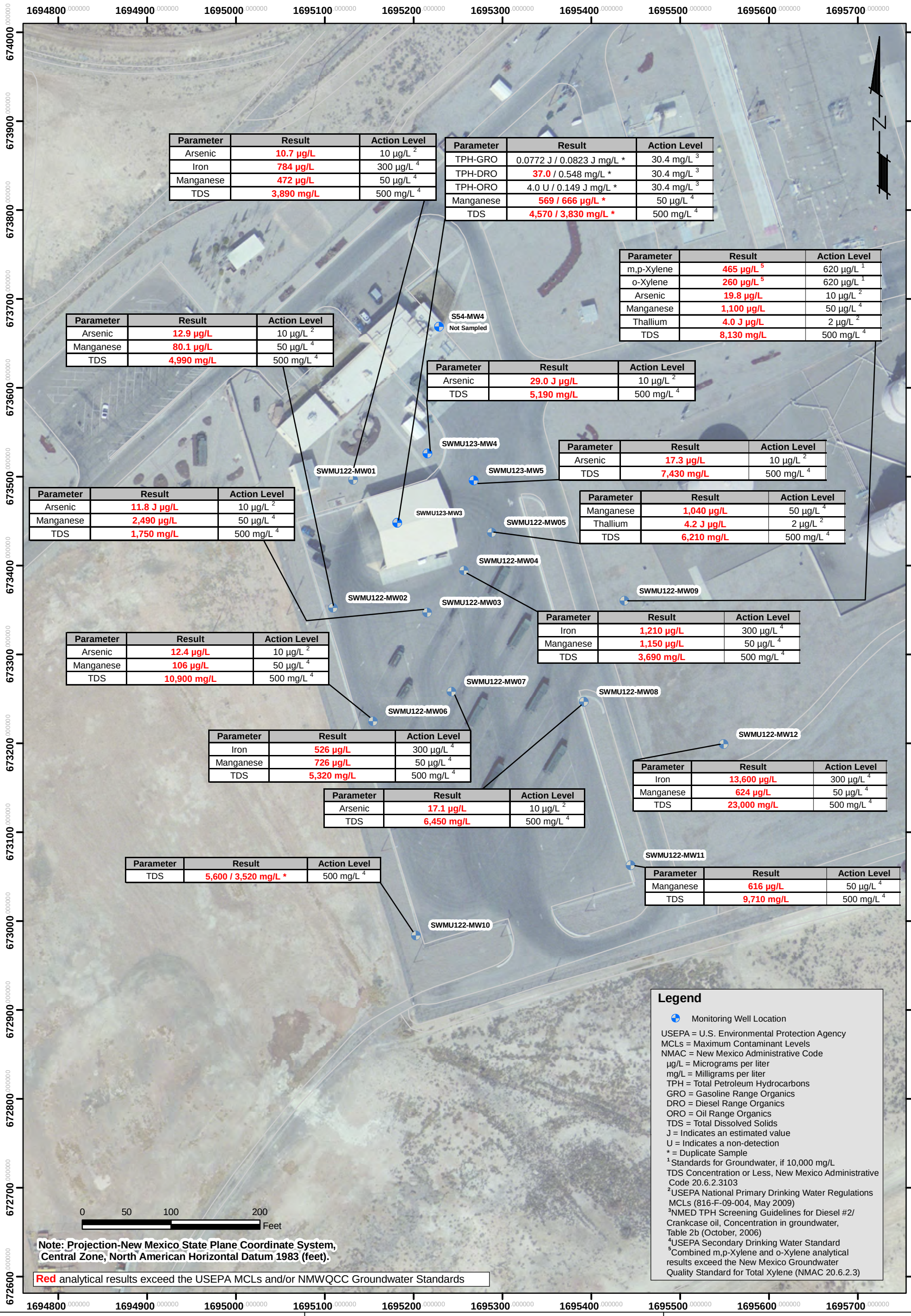
NATIONVIEW

SWMU 122
Soil Analytical Results (July 2009)
Exceeding Action Levels

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=70'	4/12/12	cm
			DRAWING NO. Figure 7-1

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 7-1



Parameter	Result	Action Level
Arsenic	10.7 µg/L	10 µg/L [2]
Iron	784 µg/L	300 µg/L [4]
Manganese	472 µg/L	50 µg/L [4]
TDS	3,890 mg/L	500 mg/L [4]

Parameter	Result	Action Level
TPH-GRO	0.0772 J / 0.0823 J mg/L *	30.4 mg/L [3]
TPH-DRO	37.0 / 0.548 mg/L *	30.4 mg/L [3]
TPH-ORO	4.0 U / 0.149 J mg/L *	30.4 mg/L [3]
Manganese	569 / 666 µg/L *	50 µg/L [4]
TDS	4,570 / 3,830 mg/L *	500 mg/L [4]

Parameter	Result	Action Level
m,p-Xylene	465 µg/L [5]	620 µg/L [1]
o-Xylene	260 µg/L [5]	620 µg/L [1]
Arsenic	19.8 µg/L	10 µg/L [2]
Manganese	1,100 µg/L	50 µg/L [4]
Thallium	4.0 J µg/L	2 µg/L [2]
TDS	8,130 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Arsenic	12.9 µg/L	10 µg/L [2]
Manganese	80.1 µg/L	50 µg/L [4]
TDS	4,990 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Arsenic	29.0 J µg/L	10 µg/L [2]
TDS	5,190 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Arsenic	17.3 µg/L	10 µg/L [2]
TDS	7,430 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Manganese	1,040 µg/L	50 µg/L [4]
Thallium	4.2 J µg/L	2 µg/L [2]
TDS	6,210 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Arsenic	11.8 J µg/L	10 µg/L [2]
Manganese	2,490 µg/L	50 µg/L [4]
TDS	1,750 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Iron	1,210 µg/L	300 µg/L [4]
Manganese	1,150 µg/L	50 µg/L [4]
TDS	3,690 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Arsenic	12.4 µg/L	10 µg/L [2]
Manganese	106 µg/L	50 µg/L [4]
TDS	10,900 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Iron	526 µg/L	300 µg/L [4]
Manganese	726 µg/L	50 µg/L [4]
TDS	5,320 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Arsenic	17.1 µg/L	10 µg/L [2]
TDS	6,450 mg/L	500 mg/L [4]

Parameter	Result	Action Level
Iron	13,600 µg/L	300 µg/L [4]
Manganese	624 µg/L	50 µg/L [4]
TDS	23,000 mg/L	500 mg/L [4]

Parameter	Result	Action Level
TDS	5,600 / 3,520 mg/L *	500 mg/L [4]

Parameter	Result	Action Level
Manganese	616 µg/L	50 µg/L [4]
TDS	9,710 mg/L	500 mg/L [4]

NATIONVIEW

SWMU 122 and 123
Groundwater Analytical Results (July 2009)
Exceeding Action Levels

PROJECT NO.	SCALE	DATE	DRAWN BY:
8080014	1"=100'	4/12/12	cm
			DRAWING NO: Figure 7-2

SWMU 122 and 123
RCRA Facility Investigation Report
Holloman AFB, New Mexico

Figure 7-2

ATTACHMENT A
NMED CORRESPONDENCE

NEW MEXICO ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 22, 2009

Mr. David Scruggs, Chief
Environmental Restoration Program
49 CES/CEVR
550 Tabosa Ave.
Holloman AFB, NM 88330-8458

SUBJECT: NOTICE OF DISAPPROVAL: RCRA FACILITY INVESTIGATION WORK PLAN, SWMUS 122 AND 123, NOVEMBER 2008 HOLLOMAN AIR FORCE BASE, NM6572124422 HAFB-08-009

Dear Mr. Scruggs:

The New Mexico Environment Department (NMED) has reviewed the RCRA Facility Investigation Work Plan for solid waste management units (SWMUs) 122 and 123, which was submitted for the performance of additional site characterization at these sites by Holloman Air Force Base (the Permittee). Upon completion of the Work Plan review, the NMED has determined that the Work Plan cannot be approved at this time, as revisions are necessary. The Permittee is required to address the following deficiencies before the NMED can make a final determination regarding approval.

COMMENTS

1. The Permittee must submit a new figure(s) showing the locations of all existing and former soil borings and monitoring wells and the results of analyses that were/are above soil and groundwater action levels.

2. The Permittee must revise Figures 1-1, 1-2, 1-3, 6-1 and 6-2 to show which datum

projection was used (e.g., New Mexico State Plane Coordinate System, Central Zone, 1983 [ft]).

3. The Permittee must revise the Work Plan to include evaluation of inorganic constituents detected in soil above the reporting limit against the soon-to-be established base-wide background concentrations. The maximum detected concentration for each contaminant that is detected above the reporting limit must be used. These comparisons will then be used to determine the site hazard index, which must be less than 1.0. Any contaminant concentrations above the soil screening levels cannot be screened out.

4. The Permittee must provide an explanation of the approach to be used to conduct a risk assessment, should one be required. This explanation shall include the use of background concentrations as discussed above.

5. The Permittee must provide a table showing all analyte holding times.

Please submit the required information in the form of a revised Work Plan that incorporates all the responses to the above NOD indicating added information in highlights, and deleted information in strikeouts, and on CDs compatible with Microsoft Word. Further, in order to expedite review of the responses, provide a matrix of the comments and HAFB responses. This response must be provided within sixty (60) days after receipt of this letter.

If you have any questions regarding this NOD or if you would like to discuss the comments prior to your response, please contact David Strasser of my staff at (505) 222-9526, or at the above address.

Sincerely,

for James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
W. Moats, NMED HWB
C. Amindyas, NMED HWB
D. Strasser, NMED HWB
L. King, EPA, Region 6 (6PD-F)
File: HAFB 2009 and Reading
HWB-HAFB-08-009

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, November, 2008				
Comment No.	**Section**	**Page**	**Comment**	**Response**
Author: David Strasser			**Date of Comments: May 22, 2009**	**Date of Response: May 29, 2009**
1	General	Figures	The Permittee must submit a new figure(s) showing the locations of all existing and former soil borings and monitoring wells and the results of analyses that were/are above soil and groundwater action levels.	Concur. Four new figures (Figures 1-4 through 1-7) have been created. The new figures show the locations of all existing and former soil borings and monitoring wells along with the results of analyses that were/are above current soil and groundwater action levels (NMED and USEPA) from the previous SWMU 122 and 123 investigations. These new figures have been introduced into the Work Plan text within Subsections 1.8.2, 1.8.6, 1.8.7.1, and 1.8.7.2.
2	General	Figures	The Permittee must revise Figures 1-1, 1-2, 1-3, 6-1, and 6-2 to show which datum projection was used (e.g., New Mexico State Plane Coordinate System, Central Zone, 1983 [ft]).	Concur. All Figures have been revised to show which datum projection was used (New Mexico State Plane Coordinate System, Central Zone, 1983 [ft]).
3	General	Pages 6-3, 6-4, and 7-1	The Permittee must revise the Work Plan to include evaluation of organic constituents detected in soil above the reporting limit against the soon-to-be established base-wide background concentrations. The maximum detected concentration for each contaminant that is detected above the reporting limit must be used. These comparisons will then be used to determine the site hazard index, which must be less than 1.0. Any contaminant concentrations above the soil screening levels cannot be screened out.	Concur. Subsections 6.2.1.1 and 6.2.1.2 have been revised to include an evaluation of inorganic constituents detected in soil and groundwater above the reporting limit against the pending base-wide background concentrations. Additionally the following text has been included in the new Section 7 (specifically Section 7.2.5 [Calculation of Site Specific SSLs] refer to the Response to Comment 4) "The maximum detected concentration for each contaminant that is detected above the reporting limit will be used to determine the site hazard index (HI). All constituents which have an HI greater than 1 will be evaluated in the site-specific risk assessment".
4	General	Pages 7-1 through 7-4	The Permittee must provide an explanation of the approach to be used to conduct a risk assessment, should one be required. This explanation shall include the use of background concentrations as discussed above.	Concur. The Work Plan has been revised to include a Risk Assessment Approach Section (new Section 7) which provides an explanation of the approach to be used for conducting a site specific risk assessment. This explanation also includes the use of background concentrations as discussed in the Response 3.
5	General	Tables	The Permittee must provide a table showing all analyte holding times.	Concur. Table 6-3 has been revised to include analyte holding times for both soil and groundwater samples collected during the SWMU 122 and 123 RFI.

NEW MEXICO ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

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RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 7, 2009

Mr. David Scruggs, Chief
Environmental Restoration Program
49 CES/CEVR
550 Tabosa Ave.
Holloman AFB, NM 88330-8458

SUBJECT: NOTICE OF DISAPPROVAL: RESPONSE TO THE NOTICE OF DISAPPROVAL FOR THE RCRA FACILITY INVESTIGATION WORK PLAN SWMUs 122 AND 123, JUNE 2009
HOLLOMAN AIR FORCE BASE, NM, EPA ID# NM6572124422
HWB-HAFB-08-009

Dear Mr. Scruggs:

The New Mexico Environment Department (NMED) has reviewed Holloman Air Force Base's (the Permittee's) August 18, 2009 response to NMED's May 22, 2009 Notice of Disapproval (NOD) for the RCRA Facility Investigation Work Plan for the performance of additional site characterization activities SWMUs 122 and 123. NMED has determined that the response does not adequately address the issues raised in the NOD. The following are the remaining deficiencies the Permittee is required to address before the NMED can approve the Work Plan:

GENERAL COMMENTS

1. The Work Plan only addresses human health risk assessment. While there is some mention of non-human receptors in the Work Plan and Section 4.4 identifies potential receptors present at the site, there is no specific discussion of how an ecological risk assessment will be conducted. The Permittee must either provide sufficient evidence to justify why an ecological risk assessment is not warranted (i.e., lack of sufficient

habitat due to small area and industrial uses) or revise the Work Plan to include the methodology that will be used to assess ecological risk.

2. The Work Plan includes use of NMED screening levels from the 2006 NMED Soil Screening Guidance and Region 6 Medium Specific Screening Levels (MSSLs) dated 2008. Please note that NMED updated the 2006 Screening Guidance; the current version is dated August 2009 version and is available on-line (http://www.nmenv.state.nm.us/hwb/guidance.html). Region 6 MSSLs are no longer applicable and have been replaced by the United States Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) located at http://www.epa.gov/region06/6pd/rcra_c/pd-n/screen.htm. All data collected as part of this Work Plan (and all previously collected data combined with the proposed data) must be compared to the 2009 NMED Screening Levels. If an NMED screening level is not available, then data should be compared to the 2009 RSLs. In the event that neither an NMED screening level, an RSL, or appropriate surrogate data are available, potential risks of the constituent must be addressed in the uncertainties section of the risk assessment. The Permittee must revise the Work Plan accordingly.

SPECIFIC COMMENTS

3. **Page 1-2, Section 1.1, 5th Bulleted Item**

This bullet was added to address the "site-specific" risk assessment protocol contained in Section 7. This Section also includes the methodology for conducting the initial generic screening assessment to determine whether additional risk evaluation is warranted. The Permittee must revise this bullet to remove the reference to site-specific risk assessment and reference only risk assessment methodologies.

4. **Page 7-1, Section 7.1**

This section indicates that all constituents of potential concern (COPCs) will be compared to the analyte-specific screening levels (NMED screening levels, RSLs, or NMED total petroleum hydrocarbon guidance screening levels). However, the text does not indicate if any conclusions will be drawn from the comparison. The Permittee must clarify the intent of this section.

5. **Page 7-3, Section 7.2.4**

This section indicates that the maximum detected concentration will be compared to the risk-based screening levels referenced in Sections 6.2.1.1 (soil) and 6.2.1.2 (groundwater). The text is not clear that the cumulative risk/hazard will be determined, and that only if cumulative risk and/or hazard are below the NMED target levels (1E-05 for carcinogens and hazard index of 1.0 for noncarcinogens) will

the site be proposed for no further action. The Permittee must clarify the text to indicate that cumulative effects will be determined.

6. **Page 7-3, Section 7.2.4**

As noted in both the technical guidance for the NMED screening levels and the RSLs, the use of the generic screening levels is appropriate only for those exposure pathways used in developing the screening levels. Inhalation of vapors from the vapor intrusion pathway is not included in the generic screening levels. If volatile organic compounds (VOCs) are present in either soil or groundwater and are identified as COPCs, then the risks/hazards via the vapor intrusion pathway must be determined and combined with the risks/hazards contributable from the generic screening levels. Evaluation of the vapor intrusion pathway is not limited only to a site-specific risk assessment. The Permittee must revise this section accordingly.

7. **Page 7-3, Section 7.2.5**

In the event that a site-specific screening level needs to be calculated, the Work Plan indicates that toxicological data provided in the NMED screening guidance will be used. The toxicological data provided in the screening tables is for reference only, to indicate the current toxicological data that were available and used at the time the screening levels were derived. A review of toxicological data (following the hierarchy of sources listed in the NMED Soil Guidance) should be conducted prior to calculating a site-specific screening level to ensure that the most recent toxicological data are being used. In the event that a screening level provided in the NMED tables has not been updated to reflect new toxicity data, the potential for under/over-estimation of risk/hazard should be addressed in the uncertainties analysis of the risk assessment. The Permittee must revise this section accordingly.

8. **Page 7-3, Section 7.2.5**

The Work Plan proposes to calculate risk ratios based upon the 2006 NMED Soil Guidance. However, the use of the term hazard index is somewhat confusing, as this infers only non-carcinogenic hazard will be assessed. The preferred method is to determine cumulative risk. However, while use of the ratio may still be applied if preferred by the facility, the Permittee must replace the term "hazard index" with "risk ratio."

9. **Page 7-3, Section 7.2.5**

The text addressing development of site-specific screening levels is vague. It appears that if site concentrations are above the generic screening levels, then site-specific parameters (mostly geological and hydrogeological) will be used to fine-tune the generic levels. However, the Work Plan does not provide any discussion as to what steps will be taken in the event that site concentrations are above the site-specific

screening levels. The Permittee must add some clarifying text that, in the event site concentrations are above the site-specific screening levels, either removal actions and/or a site-specific risk assessment will be conducted.

10. **Page 7-3, Section 7.2.6**

The text does not provide specific discussion as to what constitutes a "representative" site concentration. The Permittee must revise the Work Plan to provide additional detail. Also note that NMED and EPA guidance recommend the use of the 95% upper confidence level (UCL) of the mean as the exposure point concentration in risk assessments. The UCL should be determined using distributional-based statistical methods (e.g., EPA's ProUCL).

11. **Page 7-3, Section 7.2.6**

The Johnson and Ettinger (J&E) model is appropriate for determining exposure concentrations via the vapor intrusion scenario. However, because the J&E model is several years old, the toxicological data included in the model is not current and thus the model shall not be used to calculate resulting risk/hazard. The Permittee must revise this section accordingly.

Please submit the revisions required in this Notice of Disapproval by December 7, 2009. If you have any questions regarding this matter or if you would like to discuss the comments prior to your response, please contact David Strasser of my staff at (505) 222-9526.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
W. Moats, NMED HWB
C. Amindyas, NMED HWB
D. Strasser, NMED HWB
L. King, EPA, Region 6 (6PD-F)
File: HAFB 2009 and Reading
HWB-HAFB-08-009

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, June, 2009				
Comment No.	**Section**	**Page**	**Comment**	**Response**
Author: David Strasser			**Date of Comments: October 7, 2009**	**Date of Response: November 25, 2009**
1	General		The Work Plan only addresses human health risk assessment. While there is some mention of non-human receptors in the Work Plan and Section 4.4 identifies potential receptors present at the site, there is no specific discussion of how an ecological risk assessment will be conducted. The Permittee must either provide sufficient evidence to justify why an ecological risk assessment is not warranted (i.e., lack of sufficient habitat due to small area and industrial uses) or revise the Work Plan to include the methodology that will be used to assess ecological risk.	The non-human (biological) potential receptors that are referenced in Section 4.4 are receptors that are located within the entire Holloman AFB installation boundary (60,000 acres) and were not meant to be specific non-human receptors for the SWMU 122 and 123 sites. As a result, the first sentence in Section 4 has been revised to read: "This section identifies and describes the potential receptors (human and biological) and environmental systems that are found within the entire HAFB installation boundary (60,000 acres) as well as the potential human receptors at SWMUs 122 and 123." The following text has been added after the first sentence in Section 4.4: "SWMUs 122 and 123 are located in an area of HAFB that is classified as industrial. Additionally, there are no ecological habitats that are located in or adjacent to these SWMUs. The New Mexico Environment Department (NMED) has developed a tiered procedure for the evaluation of ecological risk (*Guidance for Assessing Ecological Risk Posed by Chemicals [GAERPC]: Screening-Level Ecological Risk Assessment*, NMED 2008). The Scoping Assessment which includes a Site Assessment Checklist is the first phase of the process as defined in the GAERPC. SWMUs 122 and 123 are located within the main base at HAFB that is classified as industrial. As per the Site Assessment Checklist, there are no habitats (wetlands, aquatic, terrestrial, wooded, shrub, grassland, and/or desert) that are in or adjacent to the site. Therefore, an ecological risk assessment is not warranted for SWMUs 122 and 123."
2	General		The Work Plan includes use of NMED screening levels from the 2006 NMED Soil Screening Guidance and Region 6 Medium Specific Screening Levels (MSSLs) dated 2008. Please note that NMED updated the 2006 Screening Guidance; the current version is dated August 2009 version and is available on-line (http://www.nmenv.state.nm.us/hwb/guidance.html). Region 6	We are familiar with the revised NMED Soil Screening Guidance and the USEPA Regional Screening Levels. Section 6.2.1.1 (Soils Applicable or Relevant and Appropriate Requirements) has been revised to reflect the updated residential soil screening levels (SSLs) established in the New Mexico Environment Department *Technical*

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, June, 2009				
Comment No.	**Section**	**Page**	**Comment**	**Response**
			MSSLs are no longer applicable and have been replaced by the United States Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) located at http://www.epa.gov/region06/6pd/rcra_c/pd-n/screen.htm. All data collected as part of this Work Plan (and all previously collected data combined with the proposed data) must be compared to the 2009 NMED Screening Levels. If an NMED screening level is not available, then data should be compared to the 2009 RSLs. In the event that neither an NMED screening level, an RSL, or appropriate surrogate data are available, potential risks of the constituent must be addressed in the uncertainties sections of the risk assessment. The Permittee must revise the Work Plan accordingly.	*Background Document for Development of Soil Screening Levels, Revision 5.0* (NMED, August 2009). If an NMED SSL has not been established for a particular contaminant of concern (e.g. 2-methylnapthalene), that constituent will then be compared to the Residential Soil Screening Level presented in the US Environmental Protection Agency's Regional Screening Level (RSL) Table (USEPA, 2009). All soil data collected as part of this work plan will now be compared to the 2009 NMED SSLs and the 2009 USEPA RSLs. Additionally, all comparisons of historical data presented in Section 1.8 (Summary of Past Investigations and Remedial Actions) including Figures 1-4 through 1-7, Tables 1 and 2 in Appendix B-8, and Table 4-2 (Appendix A) of this Work Plan have been revised and are now compared to the 2009 NMED SSLs and USEPA RSLs. Furthermore, in the event that an NMED SSL or USEPA RSL is not available, equivalent target levels will be developed if possible using the methodology presented in the NMED SSL document. Furthermore these constituents will be discussed in the uncertainties section of the risk assessment. This information has been incorporated in Section 7.7 of the revised Final RFI Work Plan (NationView, December 2009).
3	1.1	1-2	This bullet was added to address the "site-specific" risk assessment protocol contained in Section 7. This section also includes the methodology for conducting the initial generic screening assessment to determine whether additional risk evaluation is warranted. The Permittee must revise this bullet to remove the reference to site-specific risk assessment and reference only risk assessment methodologies.	The bullet was changed as below: • Section 7 presents the methodologies that will be used for conducting the risk assessment (if required). Refer to the revised Final RFI Work Plan (NationView, Dec 2009).
4	7.1	7-1	This section indicates that all constituents of potential concern (COPCs) will be compared to the analyte-specific screening levels (NMED screening levels, RSLs, or NMED total petroleum hydrocarbon guidance screening levels). However, the text does not indicate if any conclusions will be drawn from the comparison. The	Identification of chemical of potential concerns (COPCs) is discussed in Section 7.2 of the revised Final RFI Work Plan (NationView, December 2009). Section 7.2 is presented below:

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, June, 2009				
Comment No.	**Section**	**Page**	**Comment**	**Response**
			Permittee must clarify the intent of this section.	"For risk assessment purposes, all COPCs (VOCs, SVOCs, TPH, TAL metals, and PCBs) that are detected in soil and groundwater samples will be considered and screened based on the following criteria: • If the maximum detected soil concentrations are less than the NMED's SSLs for residential land use (NMED, 2009), NMED's TPH screening guidelines (NMED, 2006b) or the USEPA's RSLs (USEPA, 2009) for residential land use, these chemicals will not be considered further in the risk assessment. • For inorganic constituents (e.g., TAL metals) detected in the soil samples, if the maximum detected concentrations are below the HAFB Background, Combined Soil, UTLs (pending NMED approval of the *Basewide Background Study Report, Holloman Air Force Base, New Mexico* [NationView/Bhate JV III, 2009]), these inorganic constituents will not be considered further in the risk assessment. • If the maximum detected groundwater concentrations are less than the lower of two groundwater standards (i.e., NMWQCC groundwater standards for contaminants [NMAC 20.6.2.3103] and the USEPA's National Priority Drinking Water Regulations MCLs [USEPA, 2009b]), these chemicals will not be considered further in the risk assessment. • For inorganic constituents (e.g., TAL metals) detected in the groundwater samples, if the maximum detected concentrations are below the HAFB Background, Dissolved Metals, Groundwater UTLs (pending NMED approval of the *Basewide Background Study Report, Holloman Air Force Base, New Mexico* [NationView/Bhate JV III, 2009]), these constituents will not be considered further in the risk assessment.

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, June, 2009				
Comment No.	**Section**	**Page**	**Comment**	**Response**
				Identification of COPCs for the risk assessment will be completed after the compilation of data collected during the SWMU 122 and 123 RFI."
5	7.2.4	7-3	This section indicates that the maximum detected concentration will be compared to the risk-based screening levels referenced in Sections 6.2.1.1 (soil) and 6.2.1.2 (groundwater). The text is not clear that the cumulative risk/hazard will be determined, and that only if cumulative risk and/or hazard are below the NMED target levels (1E-05 for carcinogens and hazard index of 1.0 for non-carcinogens) will the site be proposed for no further action. The Permittee must clarify the text to indicate that cumulative effects will be determined.	To evaluate the cumulative effects of risks, site risk for carcinogens and site hazard index for non-carcinogens will be calculated as per the NMED Soil Screening Guidance (2009). This is presented in Section 7.6 of the revised Final RFI Work Plan (NationView, Dec 2009).
6	7.2.4	7-3	As noted in both the technical guidance for the NMED screening levels and the RSLs, the use of generic screening levels is appropriate only for those exposure pathways used in developing the screening levels. Inhalation of vapors from the vapor intrusion pathway is not included in the generic screening levels. If volatile organic compounds (VOCs) are present in either soil or groundwater and are identified as COPCs, then the risks/hazards via the vapor intrusion pathway must be determined and combined with the risks/hazards contributable from the generic screening levels. Evaluation of the vapor intrusion pathway is not limited only to a site-specific risk assessment. The Permittee must revise this section accordingly.	If the indoor inhalation pathway is considered to be complete exposure pathway, this pathway will be included in calculation of site risk and site hazard index. This was incorporated in Section 7.6 of the revised Final RFI Work Plan (NationView, Dec 2009). Further if the cumulative risk meets the NMED standards, no further action will be proposed.
7	7.2.5	7-3	In the event that a site-specific screening level needs to be calculated, the Work Plan indicates that toxicological data provided in the NMED screening guidance will be used. The toxicological data provided in the screening tables is for reference only, to indicate the current toxicological data that were available and used at the time the screening levels were derived. A review of toxicological data (following the hierarchy of sources listed in the NMED Soil Guidance) should be conducted prior to calculating a site-specific screening level to ensure that the most recent toxicological data are being used. In the event that a screening level provided in the NMED tables has not been updated to reflect new toxicity data, the	As per the *Technical Background Document for Development of Soil Screening Levels, Revision 5.0* (NMED, 2009), the most current toxicity values will be used and obtained from the following sources: • USEPA, Integrated Risk Information System (IRIS); • USEPA, Provisional Peer Reviewed Toxicity Values (PPRTVs); • Agency for Toxic Substances and Disease Registry (ATSDR), Minimal Risk Levels (MRLs); • California EPA (CalEPA), Office of Environmental Health Hazard Assessment (OEHHA); and

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, June, 2009				
Comment No.	**Section**	**Page**	**Comment**	**Response**
			potential for under/over-estimation of risk/hazard should be addressed in the uncertainties analysis of the risk assessment. The Permitte must revise this section accordingly.	• USEPA, Health Effects Assessment Summary Tables (HEAST). For dermal contact pathways, slope factors and reference doses will be calculated as per the *Risk Assessment Guidance for Superfund (RAGS) Volume I, Part E Supplemental Guidance for Dermal Risk Assessment* (USEPA, 2004b). This was incorporated in Section 7.4.1 of the revised Final RFI Work Plan (NationView, December 2009).
8	7.2.5	7-3	The Work Plan proposes to calculate risk ratios based upon the 2006 NMED Soil Guidance. However, the use of the term hazard index is somewhat confusing, as this infers only non-carcinogenic hazard will be assessed. The preferred method is to determine cumulative risk. However, while use of the ratio may still be applied if preferred by the facility, the Permittee must replace the term "hazard index" with "risk ratio".	The following risk ratios will be calculated: • Site risk for carcinogens, and • Site hazard index for non-carcinogens. This was clarified in Section 7.6 of the revised Final RFI Work Plan (NationView, Dec 2009).
9	7.2.5	7-3	The text addressing development of site-specific screening levels is vague. It appears that if site concentrations are above the generic screening levels, then site-specific parameters (mostly geological and hydrogeological) will be used to fine tune the generic levels. However, the Work Plan does not provide any discussion as to what steps will be taken in the event that site concentrations are above the site-specific screening levels. The Permittee must add some clarifying text that, in the event site concentrations are above the site-specific screening levels, either removal actions and/or site-specific risk assessment will be conducted.	As discussed in the Section 7.4 of the revised Final RFI Work Plan (NationView, December 2009), target levels will be calculated for the following: • Ingestion of, dermal contact with, and inhalation of vapors/particulates from soil only for the COPCs not included in the *Technical Background Document for Development of Soil Screening Levels, Revision 5.0 (NMED, 2009);* • Indoor inhalation of vapors from subsurface soil and groundwater for volatile COPCs; • Dermal contact with groundwater for all the groundwater COPCs; and • Outdoor inhalation of vapors from groundwater for volatile groundwater COPCs. If the calculated risk ratios exceed the target risk levels, remedial action will be proposed and clean-up levels will be developed.

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, June, 2009				
Comment No.	**Section**	**Page**	**Comment**	**Response**
10	7.2.6	7-3	The text does not provide specific discussion as to what constitutes a "representative" site concentration. The Permittee must revise the Work Plan to provide additional detail. Also note that NMED and EPA guidance recommend the use of the 95% upper confidence level (UCL) of the mean as the exposure point concentration in risk assessments. The UCL should be determined using distributional-based statistical methods (e.g., EPA's ProUCL).	The evaluation of risks involves many assumptions, most of which result in very conservative risks. A few relevant assumptions are: 1. Typically a receptor's exposure time is several years (e.g., 6 years for a resident child, 30 years for a resident adult, 25 years for a commercial/industrial worker, etc.) 2. Typically exposure occurs over an "area" of the site, not at one single point. The area of the site that contributes to chemical exposure is referred to as the exposure domain. 3. Typically fate and transport models are used to quantify the migration of chemicals. Examples include Domenico's model (Domenico and Schwartz, 1990) or Johnson and Ettinger's model. These models assume a "uniform" or average concentration over the exposure domain. When estimating the representative concentrations, it is important to keep in mind the above assumptions. The implications of each of these are discussed below: **Assumption 1:** The receptors are unlikely to spend the entire duration in one spot. Instead the receptors are going to be exposed to chemicals over the entire exposure domain. Therefore, it is overly conservative to use the 95% UCL. Rather average concentrations over the exposure domain should be used. **Assumption 2:** Since exposure occurs over the entire exposure domain, the sampling should be designed to cover/characterize the entire exposure domain. In general, multiple samples to characterize the entire exposure domain are collected. **Assumption 3:** The mass balance assumptions inherent in

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, June, 2009				
Comment No.	**Section**	**Page**	**Comment**	**Response**
				the models assume that the risks are based on an average concentration over the entire exposure domain. Therefore, it is overly conservative to use the 95% UCL or maximum concentrations. Rather average concentrations over the exposure domain should be used. Based on the above, the correct application of risk-based corrective action requires that average concentration over the exposure domain be used to calculate risks. Further, it is believed that the use of the 95% UCL or maximum concentration is overly conservative in the risk-based process, and should be avoided. There is considerable regulatory concern whether the average concentration has been "artificially diluted" by taking only a few samples in the impacted area and a large number of samples in the uncontaminated area. However, to avoid this circumstance, some states require that the maximum concentration over the exposure domain should also be compared with the representative concentrations. If the maximum concentration exceeds 10 times the representative concentration, possible reasons for an exceedence could be: • The maximum concentration is an outlier, • The average concentration was inaccurately calculated, • The area of impact is not adequately characterized, or • A hot spot may not have been adequately characterized. The use of the 95% UCL to get an upper limit of the true average as opposed to the sample average is also very common. However, one of the underlying assumptions in the calculations of the UCLs is random sampling and a sufficiently large data set. These assumptions are often not

Comments Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman Air Force Base, New Mexico, June, 2009				
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				valid within an exposure domain. This was incorporated in Section 7.5 of the revised Final RFI Work Plan (NationView, December 2009).
11	7.2.6	7-3	The Johnson and Ettinger (J&E) model is appropriate for determining exposure concentrations via the vapor intrusion scenario. However, because the J&E model is several years old, the toxicological data included in the model is not current and thus the model shall not be used to calculate resulting risk/hazard. The Permittee must revise this section accordingly.	When J&E model is used to evaluate indoor inhalation pathway, the most current inhalation toxicity values (unit risk factor for carcinogens and reference concentrations for non-carcinogens) and physical chemical properties will be used. The sources of toxicity values are listed in Section 7.4.1 of the revised Final RFI Work Plan (NationView, December 2009).

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

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RON CURRY
Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 19, 2010

Mr. David Scruggs, Chief
Environmental Restoration Program
49 CES/CEVR
550 Tabosa Ave.
Holloman AFB, NM 88330-8458

SUBJECT: APPROVAL
SWMUs 122 AND 123, RCRA FACILITY INVESTIGATION WORK PLAN, DECEMBER 28, 2009
HOLLOMAN AIR FORCE BASE, EPA ID# NM6572124422
HWB-HAFB-08-009

Dear Mr. Scruggs:

The New Mexico Environment Department (NMED) has reviewed Holloman Air Force Base's (the Permittee's) December 28, 2009 submittal of the response to the Notice of Disapproval dated October 7, 2009. NMED hereby concurs with the responses. As specified in Section 6.3.4 of the revised Work Plan, a peristaltic pump is proposed to be used to collect groundwater samples. NMED notes that volatile organic compounds (VOCs) are part of the suite of analytes to be sampled for. The Permittee is advised that the use of a peristaltic pump to collect VOC samples is not permitted as volatilization of the VOCs could occur. Therefore, the Permittee must use an alternate method of sampling groundwater (e.g., bailing or low flow submersible pump).

If you have any questions regarding this matter, please contact David Strasser of my staff at (505) 222-9526.

Sincerely,

John E. Kieling
Program Manager
Permits Management Program
Hazardous Waste Bureau

cc: W. Moats, NMED HWB
C. Amindyas, NMED HWB
D. Strasser, NMED HWB
L. King, EPA, Region 6 (6PD-F)
File: HAFB 2010 and Reading
HWB-HAFB-08-009

State of New Mexico
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GARY E. JOHNSON
GOVERNOR

PETER MAGGIORE
SECRETARY

PAUL R. RITZMA
DEPUTY SECRETARY

rec'd 23AUG00 JG

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Post-It® Fax Note 7671	Date 30AUG01	# of pages ▶ 5
To Carol Benivlis	From Jose Gallegos	
Co./Dept. FWENC	Co. HAFB	
Phone # 505 878 8900	Phone # 505 572 5395	
Fax # 505 878 8933	Fax # 505 572 5080	

August 17, 2001

Howard E. Moffitt
Deputy Base Engineer
49 CES/CD
550 Tabosa Avenue
Holloman Air Force Base, NM 88330-8458

SUBJECT: NOTICE OF DEFICIENCY: SWMU 123
HOLLOMAN AIR FORCE BASE
EPA ID NUMBER: NM6572124422
TASK #: HWB-HAFB-01-007

Dear Mr. Moffitt:

Pursuant to its authority under the New Mexico Hazardous Waste Act, N.M.S.A. 74-4-1 et seq., and regulations promulgated pursuant thereto, the Hazardous Waste Bureau (HWB) of the New Mexico Environment Department (NMED) has reviewed the letter report submitted by Holloman Air Force Base (HAFB) requesting a risk-based no further action (NFA) for the petroleum-oil-lubricant (POL)-contaminated soil at solid waste management unit (SWMU) 123.

Following review of the letter report, HWB has made a determination that additional information is required prior to making a final determination for NFA. The enclosed attachment lists the comments that HAFB must address and submit to NMED for review and NFA determination.

Please submit the requested information to HWB within sixty (60) calendar days from the date you receive this letter and the attached notice of deficiency (NOD). NMED HWB may consider a petition for a deadline extension, provided that a written justification and the expected submittal time are given.

Please present the required information in two hard copies and on a 3.5" diskette compatible with MS Word.

If you have any questions regarding this NOD please contact Cornelius Amindyas of my staff at (505) 841-9488, or at the above address.

Sincerely,

Acting James P. Bearzi
Chief
Hazardous Waste Bureau

JPB:ca

cc: John E. Keiling, NMED HWB
Will Moats, NMED HWB
Cornelius Amindyas
Kirby Olson, NMED HWB
David Neleigh, EPA Region VI (6PD-N)
John Poland, HAFB
Jose Gallegos, HAFB
File: Red HAFB 01 and Reading

ATTACHMENT
NOTICE OF DEFICIENCY ON SWMU 123, [BUILDING 704, WASTE OIL TANK]
HOLLOMAN AIR FORCE BASE
August 17, 2001

The following is a list of comments that the New Mexico Environment Department (NMED) Hazardous Waste Bureau compiled following review of Holloman Air Force Base (HAFB) letter report titled "*Results of additional soil sampling for remediation of the POL-Contaminated SWMU 123, at Holloman Air Force Base*."

HAFB must address these comments and submit the required information to NMED to enable HWB make a final determination for NFA on the subject SWMU.

COMMENT #:

1. The sampling results for BTEX given in Table 6-1 exceed the NMED soil screening levels (SSLs) for protection of groundwater (DAF=20) for ethylbenzene, toluene, and xylene in sample SWMU123-SB-C-9. The migration to groundwater SSLs are relevant at this site because the groundwater table is only 15-30 ft below ground surface. Also, the sampling results showed elevation of these three constituents at all of the deep samples and the text refers to excavation of contaminated soil near the washrack to the groundwater table. **Most importantly, the above sample contains ethylbenzene at a concentration almost double the saturation-based direct exposure NMED SSL. This means that there is substantial chance that free product may be present in the soil under the washrack.** The potential for groundwater contamination and for free product in the soil are not addressed in this document, so potential risk pathways have not been adequately addressed in the document.

2. It is not possible to assess whether there may be risks from other RCRA constituents at the site, because sampling results are submitted only for BTEX and TRPH. The TRPH levels are quite high, particularly at 8-9 ft, so there is no assurance that individual constituents don't exceed the risk-based guidelines issued by NMED. Since the site collected waste oil, there may also be concerns about risks from metals; no sampling results are submitted for metals in the letter report. The sampling results given in this NFA proposal are inadequate for determining if there is residual risk from contaminants remaining at the site; the sampling analysis should have been for RCRA constituents to allow for comparison to risk-based cleanup levels.

3. This document does not present a valid risk assessment to support the requested risk-based NFA due to the deficiencies mentioned above. HAFB should therefore conduct further investigation to delineate the nature, horizontal and vertical extent of the contaminant plume by sampling for RCRA constituents, pH, and metals at SWMU 123.

4. HAFB should address free product during the investigations, since elevated concentration of ethylbenzene and TRPH with depth in the soil samples strongly suggests the possibility that free product exists below.

5. Provide a site plan (with a scale and north arrow) that shows the locations of the concrete pad, the waste oil tank, the boring locations, the limits of the remedial excavation, all soil sample locations, surrounding site structures (including the office building 704), any subsurface structures such as USTs, utility lines, storm drains, manholes, and any surrounding monitoring wells.

6. Provide information on the containment of wash water on the pad, and explain whether it drains off the sides of the pad, is there a drain or sump and associated drain lines, are there sewer lines or tanks? And, if present, has HAFB investigated these structures previously? Earlier studies conducted in 1994 did not cover/discuss these.

7. Provide the analytical methods and detection limits for each chemical analysis performed for all past and future sample analyses. NMED recommends that sample analysis values be reported as less than instrument detection limits, versus a non-detect (ND) reporting.

8. Drill one boring at the downgradient end of the concrete pad, since the letter report indicates that HAFB's deepest soil boring only reached a maximum depth of 9 feet below ground surface. The new boring should be drilled to a minimum depth of 5 feet below the seasonal low water table elevation and also to apparent clean soil based on field screening. Soil samples should be collected at 2.5-foot intervals or continuously from the boring. HAFB should submit the soil sample collected from immediately above the water table, from the base of the boring and also the most contaminated sample (based on field screening) to a laboratory for analysis of gasoline range organics (GRO), diesel range organics (DRO) and oil range organics (ORO) by EPA Method 8015M, VOCs by EPA Method 8260, SVOCs by EPA Method 8270 and RCRA metals (i.e., **Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver**).

9. HAFB should install a monitoring well in the boring with a screened interval that extends above the water table. HAFB should test for phase-separated hydrocarbons. If there is no free product then HAFB must collect groundwater samples for analyses of GRO, DRO, ORO, VOCs, SVOCs and RCRA metals.

10. If the waste oil UST was in a different location, HAFB must install a well there also as described above and add PCBs to the soil sample analytical suite.

11. If HAFB doesn't have information on the direction of groundwater flow, it must install a minimum of 3 wells so that it can determine and indicate the groundwater flow direction at the site.

12. NMED is suggesting analysis of VOCs by EPA Method 8260 because solvents may have been used at the wash rack and would have been discharged to the waste oil UST. Therefore HAFB should check for HVOCs. If HAFB already has some of this information, then just test for BETX (EPA Method 8021B or the latest version will do).

13. Submit a work plan to complete this work within 60 calendar days from the date HAFB receives this Attachment and the cover letter. Based on the results of the investigation, NMED may require further investigation and possibly corrective action. Further, should the POL contamination be limited to soil, HAFB could consider excavating and disposing of the contaminated soil appropriately to protect the health of the office workers in the building(s) located near SWMU123.

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DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 10, 2004

Ms. Debbie Hartell
Chief Environmental
49 CES/CEV
550 Tabosa Ave.
Holloman AFB, NM 88330-8458

RE: APPROVAL OF THE ADDITIONAL SOIL BORING AND MONITORING WELL INSTALLATION WORKPLAN FOR SWMU 123, HOLLOMAN AIR FORCE BASE
EPA ID# NM6572124422
HWB-HAFB-03-006

Dear Ms. Hartell:

The New Mexico Environment Department (NMED) has reviewed Holloman Air Force Base's *Soil Boring And Monitoring Well Installation Workplan for SWMU 123* dated November 2003.

NMED approves the workplan for implementation. However, the following considerations should be addressed during implementation of the proposed work.

1. Regardless of the findings at the DPT-2 location, at least one of the optional DPT soil borings should be installed in the area of or east of soil boring 123-B02, (Phase 1 Investigation Remedial Investigation Report, September 1997) which was drilled approximately 25 feet east of the abandoned waste oil tank. Soil boring 123-B02 showed elevated levels of Total Recoverable Petroleum Hydrocarbons (TRPH) and volatile organic carbons (VOCs) constituents and therefore must be investigated in order to define the lateral extent of contamination in this direction.

2. The ground water flow direction does not appear to be well established in this area based on the south/southwest flow directions at SWMUs LF-01 and SD-08, and the easterly ground water flow direction at Spill Site 02/05. Therefore, HAFB should consider installing an additional ground water monitoring well to the east of the release location.

If you have any questions, please contact me at (505) 841-9488.

Sincerely,

Steve Jetter
HWB Permits Management Program

cc: Sandra Martin, NMED HWB
John Kieling, NMED HWB
Cornelius Amindyas, NMED HWB
James Harris, EPA-Region 6
David Scruggs, HAFB
Dan Holmquist, HAFB
File: Reading and HAFB-HSWA

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT
Attn: Mr. James P. Bearzi
Hazardous Waste Bureau
2905 Rodeo Park Dr., East, Bldg. 1
Santa Fe, NM 87505-6303

FROM: 49 CES/CEV
550 Tabosa Ave
Holloman AFB NM 88330-8458

SUBJECT: Notification of Free Phase Liquid at Solid Waste Management Unit (SWMU) 123 – Bldg. 704 Waste Oil Tank Site

1. This letter is to inform you of the presence of free phase liquid in monitoring well MW-1. This changed condition was identified during investigation activities at the site. We have initiated the following activities to both assess and mitigate this condition:

a. A sample of the liquid has been submitted for laboratory analysis to determine if it is characteristically hazardous.
b. The four adjacent monitoring wells have been resampled to assess the extent of any changes.
c. Removal (bailing) of free phase liquid has been initiated.

2. Well MW-1 is located along the northern edge of the wash rack where a waste oil tank (SWMU 21) and an oil water separator (OWS, SWMU 22) were removed in the past. Considering the historical nature of the waste oil tanks and the OWS in conjunction with the weathered appearance (dark brown) of the free phase liquid, this is not a newly discovered release. As a result of these findings, the Investigation Report for the site is being delayed until the new data is available for evaluation. A draft of the report will be available by 1 November 2004. The environmental restoration of the SWMU-123 site is scheduled to take place in 2005.

3. If you have any questions, please contact Mr. Dan Holmquist at (505) 572-5395.

DAVID BUDAK
Deputy Base Civil Engineer

cc

Mr. Cornelius Amindyas	Mr. Steve Jetter	Mr. James Harris
Hazardous Waste Bureau	NMED DOE OB	USEPA, Region 6 PD-N, Cube
4131 Montgomery NE	H & Pennsylvania Street	1445 Ross Ave., Ste 12
Albuquerque, NM 87109	Albuquerque, NM 87116	Dallas, TX 75202-2733

Telephone Record

To: Frank Gardner, John Hymer, Dave Rizzuto, Dan Holmquist, Dave Strasser & Cornelius Amindyas

Prepared By: Chuck Schick

Date: 8/30/2005 - Approximately 9:50am

Call Between: Chuck Schick and Mr. Dave Strasser (NMED) regarding the VCM Work Plan for SWMU 123 dated August 2005

Major Items Discussed:

The above referenced work plan is verbally approved with the following modifications:

1. The approximate size of the excavation area is 80 feet (North and South walls) by 50 feet (East and West walls).
2. A minimum of four (4) confirmation (stress on minimum) soil samples from each of the North and South wall (samples for offsite lab analysis) will be collected (total of 8). Minimum implies that more than four samples can be collected from each wall if required to delineate any remaining contaminants.
3. Change the location of soil sample collection from the mid-point of each wall to a staggered configuration with alternating locations of 1-foot above the water table and the next sample at the mid-point of the wall. This will promote vertical delineation along each wall.
4. A minimum of two (2) confirmation (we can take more than two if needed) soil samples from each of the **East and West walls** of the excavation. The same staggered vertical pattern used on the longer side walls will be continued with one sample from the mid-point followed by the next from 1-foot above the water table.

Other Items Discussed:

1. The work plan does not address groundwater impact. It is anticipated that additional monitoring wells to the south and southeast will be necessary to delineate impacts observed in well MW-2. It is possible that a remedial strategy will be necessary for the groundwater contaminants.
2. A report will be generated from the soil removal addressed in this VCM work plan. That report will include a work plan (a work plan inside a source removal or contaminant reduction report) to address the additional groundwater characterization.

ATTACHMENT B
VARIANCE FORM

VARIANCE FORM

Project/Phase Number: 8080014 / 02.020	**Site Name: SWMUs 122 and 123**
Site Manager/Supervisor: Dustin McNeil / James Moore	**Location: Holloman Air Force Base**
Date Variance Takes Effect: June 23, 2009	**Date of Form Completion: June 23, 2009**

Original Requirement:

[Monitoring] Well development will begin no sooner than 48 hours after grouting.

Requirement Reference:

NationView. June 2009. Final RCRA Facility Investigation Work Plan SWMUs 122 and 123 Holloman AFB, New Mexico. Page 6-9, Section 6.3.3.2, 3rd paragraph, 2nd sentence.

Variance:

Monitoring well development will begin after a minimum of 12 hours has elapsed following well completion.

Reason for Variance:

New Mexico Environment Department Ground Water Discharge Permit Monitoring Well Construction and Abandonment Guidelines Rev. 1.0, July 2008, page 1, General Drilling Specifications, bullet point #3 states; "After well completion, the well should be allowed to stabilize for a minimum of 12 hours before development is initiated."

Approved by:

Name	Organization	Date

Communicated to the following Project Team Members:

Name	Date	Name	Date
Frank Gardner	**6/24/2009**	**Zachary Beck**	**6/24/2009**
James Moore	**6/24/2009**	**Craig McGriff**	**6/24/2009**
Dustin McNeil	**6/24/2009**		

APPENDIX A

HISTORICAL DATA FROM PREVIOUS INVESTIGATIONS

Appendix A-1

Portions of the *RCRA Facility Assessment, Preliminary Review/Visual Site Inspection Report*

A.T. Kearney, Inc. and DPRA, Inc., September 1988

RCRA FACILITY ASSESSMENT

PRELIMINARY REVIEW/VISUAL SITE INSPECTION REPORT

Holloman Air Force Base
New Mexico
NM6572124422

Prepared for:

U.S. Environmental Protection Agency
Region VI
1455 Ross Avenue
Dallas, Texas 75202-2733

Prepared by:

A.T. Kearney, Inc.
Three Lagoon Drive, Suite 170
Redwood City, California 94065

and

DPRA Incorporated
245 East 6th Street, Suite 813
St. Paul, MN 55101

Contract No. 68-01-7374
Work Assignment No. R26-05-49

September 1988

SWMU 122 - Building 702 Waste Oil Tank

DESCRIPTION

Unit Type: Underground Storage Tank

Location: Located just north of the Building 702 Oil/Water Separator (SWMU 21).

Purpose of Unit: Collects oil removed from wastewater in the Building 702 Oil/Water Separator.

Period of Operation: Unknown

Dimensions/Volume: Unknown

Material of Construction: ___ Steel ___ Wood ___ Concrete
___ FRP ___ Plaster ___ Earthen

Underlain By: ___ Concrete ___ Asphalt ___ Gravel

___ Grass _x_ Soil

Environmental: ___ Indoors _x_ Outdoors _x_ Below Ground

___ In Ground ___ Above Ground

___ Less than 1000 ft to Surface Water

___ Less than 1000 feet to Drinking Water Well

___ Less than 1000 feet to Residences

Details: The size, materials of construction, and integrity of the tank are unknown.

CLOSURE INFORMATION

_x_ Active
___ Inactive/Physically Present
___ Closed Under State or EPA
___ Other

REGULATORY STATUS

___ RCRA
___ State or local permit
_x_ Not regulated

WASTES MANAGED

___ Solids	___ Corrosive	_x_ Organics
_x_ Liquids	___ Flammable	___ Inorganics
___ Gases	___ Reactive	___ Metals
___ Sludges		

Details: The tank receives waste oil and hydraulic fluid.

Source of Wastes: Building 702 Oil/Water Separator (SWMU 21).

Disposition of Waste: The waste liquid in the tank is removed and transferred to the DRMO Waste Storage Areas (SWMUs 75 and 76).

RELEASE CONTROLS

___ Liner	___ Diking	___ Sewer Connection
___ Level Controls	___ Overflow Controls	___ Corrosion Protection
___ Leak Detection	___ Cover	

Details: Waste liquids flow by gravity into the tank from the oil/water separator. The tank is not equipped with automatic fill controls or level monitoring devices. Liquid level inspections by Holloman AFB engineers are routinely conducted and waste oil is removed on a regular interval to prevent overfills.

MONITORING

___ Monitoring Wells	___ Downgradient Wells
___ Upgradient Wells	___ Surface Water Monitoring

Monitoring Frequency: No monitoring wells exist near the unit.

RELEASE HISTORY

___ Past Release to Air	___ VSI Noted Release to Air
___ Past Release to Soil/Groundwater	___ VSI Noted Release to Soil/Groundwater
___ Past Release to Surface Water	___ VSI Noted Release to Surface Water
___ Past Release to Subsurface Gas	___ VSI Noted Release to Subsurface Gas

VSI Noted Release Conditions: The tank is below ground and could not be inspected during the VSI.

Details of Past Releases: There was no evidence of past releases noted in the file information.

RELEASE POTENTIAL

Air	_x_ Low	___ Medium	___ High
Soil/Groundwater	___ Low	___ Medium	___ High
Surface Water	_x_ Low	___ Medium	___ High
Subsurface Gas Generation	___ Low	___ Medium	___ High

Details of Release Potential: The potential for release to soil and groundwater and for generation of subsurface gas is unknown since the age, materials of construction, and integrity of the tank are not known.

REFERENCES: V-1

PHOTOGRAPHS: 2-5

SWMU 123 - Building 704 Waste Oil Tank

DESCRIPTION

Unit Type: Underground Tank

Location: Located adjacent to the Building 704 Oil/Water Separator (SWMU 22).

Purpose of Unit: Collects waste oil removed from wastewater in the Building 702 Oil/Water Separator (SWMU 22).

Period of Operation: Unknown

Dimensions/Volume: Unknown

Material of Construction: ___ Steel ___ Wood ___ Concrete
___ FRP ___ Plaster ___ Earthen

Underlain By: ___ Concrete ___ Asphalt ___ Gravel

___ Grass _x_ Soil

Environmental: ___ Indoors _x_ Outdoors _x_ Below Ground

___ In Ground ___ Above Ground

___ Less than 1000 ft to Surface Water

___ Less than 1000 feet to Drinking Water Well

___ Less than 1000 feet to Residences

Details: The size, materials of construction and integrity of the tank are not known.

CLOSURE INFORMATION

_x_ Active
___ Inactive/Physically Present
___ Closed Under State or EPA
___ Other

REGULATORY STATUS

___ RCRA
___ State or local permit
_x_ Not regulated

WASTES MANAGED

___ Solids	___ Corrosive	_x_ Organics
_x_ Liquids	___ Flammable	___ Inorganics
___ Gases	___ Reactive	___ Metals
___ Sludges		

Details: The unit receives waste oil and hydraulic fluid.

Source of Wastes: Building 704 Oil/Water Separator (SWMU 22).

Disposition of Waste: Waste liquid in the tank is removed and transferred to the DRMO Waste Storage Areas (SWMUs 75 and 76).

RELEASE CONTROLS

___ Liner	___ Diking	___ Sewer Connection
___ Level Controls	___ Overflow Controls	___ Corrosion Protection
___ Leak Detection	___ Cover	

Details: Waste liquids flow by gravity into the tank from the oil/water separator. The tank is not equipped with automatic fill controls or level monitoring devices. Liquid level inspections by Holloman AFB engineers are routinely conducted and waste oil is removed on a regular interval to prevent overfills.

MONITORING

___ Monitoring Wells	___ Downgradient Wells
___ Upgradient Wells	___ Surface Water Monitoring

Monitoring Frequency: No monitoring wells exist near the unit.

RELEASE HISTORY

___ Past Release to Air	___ VSI Noted Release to Air
___ Past Release to Soil/Groundwater	___ VSI Noted Release to Soil/Groundwater
___ Past Release to Surface Water	___ VSI Noted Release to Surface Water
___ Past Release to Subsurface Gas	___ VSI Noted Release to Subsurface Gas

VSI Noted Release Conditions: The tank is below ground and could not be inspected during the VSI.

Details of Past Releases: There was no evidence of past releases noted in the file information.

RELEASE POTENTIAL

Air	_x_ Low	___ Medium	___ High
Soil/Groundwater	___ Low	___ Medium	___ High
Surface Water	_x_ Low	___ Medium	___ High
Subsurface Gas Generation	___ Low	___ Medium	___ High

Details of Release Potential: The potential for release to soil and groundwater and for generation of subsurface gas is unknown since the age, materials of construction, and integrity of the tank are not known.

REFERENCES: V-1

PHOTOGRAPHS: No photograph taken.

Appendix A-2

Portions of the *Phase I RCRA Facility Investigation Report, Table 2 Solid Waste Management Units, Volume I*

Radian Corporation, October 1994

PHASE I RCRA FACILITY INVESTIGATION REPORT

TABLE 2 SOLID WASTE MANAGEMENT UNITS

VOLUME I

Prepared for:

49 CES/CEV
Holloman Air Force Base, NM

Prepared by:

Radian Corporation
8501 N. Mopac Blvd.
Austin, TX 78759

Under Contract No. DACA45-93-D-0027
with
U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

October 1994

4.4 SWMU 21—Building 702 Oil/Water Separator
SWMU 22—Building 704 Oil/Water Separator
SWMU 123—Building 704 Waste Oil Tank

SWMUs 123 and 22 are on Table 2 of Holloman AFB's HSWA permit. SWMU 21 is currently on Table 3 of the permit, but will be moved to Table 2 pending a Class 1 permit modification. The units were in operation from 1980 to 1991. No previous investigation has been conducted at these SWMUs. However, the SWMUs are adjacent to SWMU 54 and 55, which were initially investigated in 1988 and 1989 (*RI Report*, Walk Haydel, and Associates, Inc., 1989), and are also adjacent to IRP Site 47, which was investigated by Woodward-Clyde Consultants in 1993. For this investigation, six soil borings were drilled in the potentially affected area

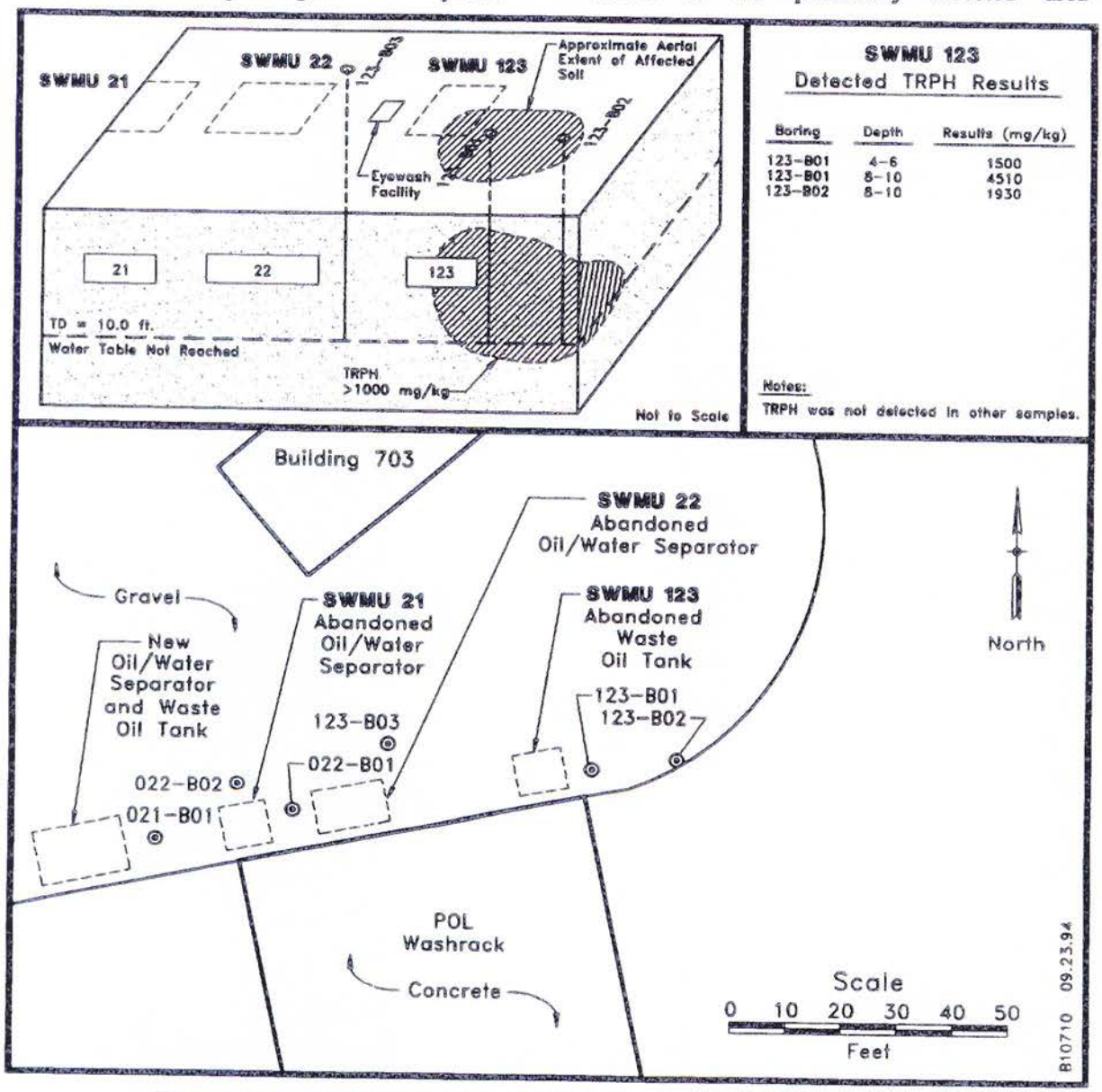


Figure 4.4-1. SWMUs 21, 22, and 123 Features and Sampling Locations

Table 4.4-1
Analytical Results for Soil Samples—SWMU 21

Location ID		021-B01		021-B01	
Sample ID		021-B01-01-01		021-B01-02-01	
Beg. Depth-End Depth (ft)		6.5-8.5		10.5-12.5	
E418.1 - Total Recoverable Petroleum Hydrocarbons (mg/kg)					
Hydrocarbons	[1000]	< DL	(33.7)	< DL	(34.5)
SW8240 - Volatile Organics (µg/kg)					
4-Methyl-2-pentanone (MIBK)	[$4x10^6$]	ND	(3.43)	2.58 BJ	(3.48)
Acetone	[$8x10^6$]	8.24 BJ	(20)	12.7 BJ	(20.3)
Methyl ethyl ketone	[$4.8x10^7$]	ND	(9.63)	6.33 BJ	(9.76)
Methylene chloride	[$9.3x10^6$]	1.04 J	(2.84)	1.02 J	(2.88)
Trichloroethene	[NS]	2.34 J	(4.34)	ND	(4.4)
SW6010 - Metals (mg/kg)					
Barium	[84.36,5600]	17.5	(0.0539)	38.2	(0.0532)
Chromium	[$6.6,8x10^4$]	3.68 B	(0.254)	4.97 B	(0.251)
Silver	[0.73,400]	0.645	(0.17)	< DL	(0.168)
SW7060 - Arsenic (mg/kg)					
Arsenic	[6.88,24]	1.37	(0.833)	< DL	(0.731)
SW7421 - Lead (mg/kg)					
Lead	[12.3,500]	1.76 S	(0.0843)	0.265 S	(0.0741)
SW7740 - Selenium (mg/kg)					
Selenium	[10.53,400]	3.81	(0.298)	4.18	(0.261)

Note: The UTLs and the trigger criteria are presented, respectively, in brackets [ ]; [ ] = trigger criteria for organics; [,] = UTL, trigger criteria for inorganics.

( ) = Detection limit.
B = Analyte detected in associated blank analyses.
DL = Detection limit.
J = Estimated concentration, analyte detected at concentration below the detection limit.
ND = Not detected.
NS = Not specified.
S = Analyte concentration obtained using the MSA.

Table 4.4-2
Analytical Results for Soil Samples—SWMU 22

Location ID		022-B01		022-B01		022-B02		022-B02	
Sample ID		022-B01-01-01		022-B01-02-01		022-B02-01-01		022-B02-02-01	
Beg. Depth-End Depth (ft)		6-8		10.5-12.5		6-8		10.5-12.5	
E418.1 - Total Recoverable Petroleum Hydrocarbons (mg/kg)									
Hydrocarbons	[1000]	< DL	(33.3)	< DL	(33.2)	< DL	(32.9)	< DL	(34.5)
SW8240 - Volatile Organics (µg/kg)									
2-Hexanone	[NS]	3.7 BJ	(7.6)	ND	(7.49)	ND	(7.46)	ND	(7.86)
4-Methyl-2-pentanone (MIBK)	[$4x10^6$]	2.91 BJ	(3.39)	ND	(3.34)	ND	(3.32)	ND	(3.5)
Acetone	[$8x10^6$]	147	(19.7)	166	(19.4)	7.97 BJ	(19.4)	515	(49.8)
Methyl ethyl ketone	[$4.8x10^7$]	4.95 BJ	(9.49)	8.01 BJ	(9.36)	ND	(9.32)	ND	(9.82)
Methylene chloride	[$9.3x10^4$]	1.01 J	(2.8)	1.49 J	(2.76)	0.815 J	(2.75)	1.1 J	(2.9)
Trichloroethene	[NS]	ND	(4.28)	2.75 J	(4.22)	ND	(4.2)	2.65 J	(4.43)
Xylene (total)	[$1.6x10^8$]	ND	(6)	0.774 J	(5.91)	ND	(5.89)	ND	(6.21)
SW6010 - Metals (mg/kg)									
Barium	[84.36,5600]	59.4	(0.0618)	23.4	(0.0538)	37.7	(0.0482)	23.5	(0.0464)
Chromium	[$6.6,8x10^4$]	7.23 B	(0.291)	4.17 B	(0.254)	5.93 B	(0.227)	3.08 B	(0.219)
Silver	[0.73,400]	< DL	(0.195)	0.2	(0.17)	< DL	(0.152)	0.451	(0.147)
SW7060 - Arsenic (mg/kg)									
Arsenic	[6.88,24]	1.51	(0.804)	< DL	(0.79)	4.26	(0.665)	< DL	(0.773)
SW7421 - Lead (mg/kg)									
Lead	[12.3,500]	2.77 S	(0.0814)	0.863 S	(0.08)	4.01 S	(0.135)	0.248 S	(0.0783)
SW7740 - Selenium (mg/kg)									
Selenium	[10.53,400]	4.64	(0.287)	3.52	(0.282)	3.97	(0.238)	3.84	(0.276)

Note: The UTLs and the trigger criteria are presented, respectively, in brackets [ ]; [ ] = trigger criteria for organics; [,] = UTL, trigger criteria for inorganics.

( ) = Detection limit.
B = Analyte detected in associated blank analyses.
DL = Detection limit.
J = Estimated concentration, analyte detected at concentration below the detection limit.
ND = Not detected.
NS = Not specified.
S = Analyte concentration obtained using the MSA.

Table 4.4-3
Analytical Results for Soil Samples—SWMU 123

Location ID		123-B01		123-B01		123-B02		123-B02		123-B03		123-B03	
Sample ID		123-B01-01-01		123-B01-02-01		123-B02-01-01		123-B02-02-01		123-B03-01-01		123-B03-02-01	
Beg. Depth-End Depth (ft)		4-6		8-10		4-6		8-10		6-8		10-12	
E418.1 - Total Recoverable Petroleum Hydrocarbons (mg/kg)													
Hydrocarbons	[1000]	1500	(32.1)	4510	(68.5)	< DL	(31.9)	1930	(36)	< DL	(32.4)	< DL	(34.6)
SW8240 - Volatile Organics (ug/kg)													
1,1-Dichloroethene	[1.16X10 ^{4}]	464 J	(833)	7210 J	(8930)	ND	(3.47)	569 J	(747)	ND	(3.1)	ND	(3.31)
Acetone	[8x10 ^{6}]	ND	(1330)	ND	(14300)	778	(144)	ND	(1190)	124	(19.1)	28.8 B	(20.4)
Benzene	[2.4x10 ^{4}]	742 J	(1150)	54000	(12300)	ND	(1.91)	12800	(1030)	ND	(1.3)	ND	(1.39)
Carbon disulfide	[8x10 ^{6}]	ND	(1080)	ND	(11600)	13.2	(5.09)	ND	(967)	ND	(3.46)	ND	(3.69)
Ethyl benzene	[8x10 ^{6}]	20500	(762)	229000	(8180)	ND	(2.01)	36800	(684)	ND	(1.25)	ND	(1.34)
Methylene Chloride	[9.3x10 ^{4}]	ND	(1280)	ND	(13800)	ND	(1.75)	ND	(1150)	0.894 J	(2.71)	0.875 J	(2.89)
Toluene	[1.6x10 ^{7}]	2280	(479)	345000	(5130)	ND	(1.89)	36300	(429)	ND	(2.58)	ND	(2.76)
Xylene (total)	[1.6x10 ^{8}]	14600	(1490)	363000	(15900)	ND	(4.09)	66000	(1330)	ND	(5.81)	ND	(6.2)
SW8270 - Semivolatile Organics (ug/g)													
2-Methylnaphthalene	[NS]	3.11	(0.859)	4.38	(0.951)	ND	(0.092)	1.43	(0.991)	ND	(0.0252)	ND	(0.027)
Dibenzofuran	[NS]	ND	(0.655)	0.471 J	(0.725)	ND	(0.0702)	ND	(0.756)	ND	(0.0241)	ND	(0.0257)
Naphthalene	[NS]	0.402 J	(0.747)	ND	(0.827)	ND	(0.08)	ND	(0.862)	ND	(0.0335)	ND	(0.0359)
SW6010 - Metals (mg/kg)													
Barium	[84.36,5600]	76	(0.042)	28	(0.061)	31.3	(0.05)	32.1	(0.0485)	48.7	(0.0581)	29	(0.052)
Chromium	[6.6,8x10 ^{4}]	21.1	(0.198)	6.18 B	(0.288)	7.46 B	(0.236)	4.08 B	(0.229)	7.23 B	(0.274)	2.63 B	(0.245)
Silver	[0.73,400]	< DL	(0.133)	0.587 B	(0.193)	< DL	(0.158)	0.369 B	(0.153)	< DL	(0.184)	0.463	(0.164)
SW7060 - Arsenic (mg/kg)													
Arsenic	[6.88,24]	1.75 B	(0.586)	< DL	(0.717)	0.923 B	(0.682)	< DL	(0.774)	3.15	(0.726)	< DL	(0.896)
SW7421 - Lead (mg/kg)													
Lead	[12.3,500]	76.8 S	(1.52)	2.99 S	(0.0746)	3.42 S	(0.0738)	1.94 SB	(0.0659)	4.17 S	(0.147)	4.22 S	(0.0907)
SW7471 - Mercury (mg/kg)													
Mercury	[NS]	0.0192 B	(0.0154)	0.0411 B	(0.0164)	< DL	(0.0154)	0.0326 B	(0.0174)	< DL	(0.0156)	< DL	(0.0167)
SW7740 - Selenium (mg/kg)													
Selenium	[10.53,400]	< DL	(0.21)	< DL	(0.256)	< DL	(0.244)	0.38	(0.277)	3.58	(0.259)	4.29	(0.32)

Table 4.4-3 (Continued)

Note: The UTLs and the trigger criteria are presented, respectively, in brackets [ ]; [ ] = trigger criteria for organics; [,] = UTL, trigger criteria for inorganics.

Results greater than trigger criteria are shaded.
( ) = Detection limit.
B = Analyte also detected in laboratory method blank.
DL = Detection limit.
J = Estimated concentration, analyte detected at concentration below the detection limit.
ND = Not detected.
NS = Not specified.
S = Analyte concentration obtained using the Method of Standard Additions (MSA).

DRILLING LOG

HOLE NO.	123-B01
1. COMPANY NAME	Radian Corporation
2. DRILLING SUBCONTRACTOR	Southwest Engineering, Inc.
SHEET 1 OF 1 SHEETS	
3. PROJECT	Table 2 - RFI
4. LOCATION	Holloman AFB
5. NAME OF DRILLER	Alex Sanchez
6. MANUFACTURERS DESIGNATION OF DRILL	CME 55
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Hollow Stem Auger 3.75" ID; 8.0" OD; Split spoon (ASTM D1586-84) 3" ID/2" ID; 140 lb. drop-hammer
8. HOLE LOCATION	Easting=673441.13; Northing=554953.33
9. SURFACE ELEVATION	
10. DATE STARTED	11/19/93
11. DATE COMPLETED	11/19/93
12. OVERBURDEN THICKNESS	NA
13. DEPTH DRILLED INTO ROCK	NA
14. TOTAL DEPTH OF HOLE	10.00 ft.
15. DEPTH GROUNDWATER ENCOUNTERED	NONE
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA
18. GEOTECHNICAL SAMPLES	No
DISTURBED	
UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES	NA
20. SAMPLES FOR CHEMICAL ANALYSIS	Yes
SW8240	Metals
SW8270	E418.1
21. TOTAL CORE REC.	NA
22. DISPOSITION OF HOLE	Vertical
GROUTED	Grout
MONITORING WELL	
OTHERS (SPECIFY)	
23. SIGNATURE OF INSPECTOR	David R. Robbins

ELEV. a	DEPTH b	GRAPHIC LOG c	DESCRIPTION OF MATERIALS d	SPLIT SPOON (ppm) e	HEAD-SPACE (ppm) f	BLOW COUNTS g	ANALYTICAL SAMPLE NO. h
			SILTY SAND (SM): dark brown (7.5YR 3/3), fine grained, with fine gravel, dry, nonplastic, loose.				
			Strong grayish black staining, strong petroleum odor		>9000	3/0/1/3	
	2				>9000	1/1/1/1	
	4				>9000	1/3/6/14	123-B01-01-01
			SILTY SAND (SM): yellow (10YR 7/8), fine grained, with strong blackish gray staining, strong petroleum odor, wet, nonplastic, medium dense.				
	6				>9000	3/8/10/20	
	8				>9000	3/8/20/17	123-B01-02-01
			Total Depth = 10.0 ft.				

0 2 4 6 8 10

PROJECT: Table 2 - RFI HOLE NO.: 123-B01

DRILLING LOG

HOLE NO.	123-B02
1. COMPANY NAME	Radian Corporation
2. DRILLING SUBCONTRACTOR	Southwest Engineering, Inc.
SHEET 1	OF 1 SHEETS
3. PROJECT	Table 2 - RFI
4. LOCATION	Holloman AFB
5. NAME OF DRILLER	Alex Sanchez
6. MANUFACTURERS DESIGNATION OF DRILL	CME 55
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	Hollow Stem Auger 3.75" ID; 8.0" OD; Split spoon (ASTM D1586-84) 3" ID/2" ID; 140 lb. drop-hammer
8. HOLE LOCATION	Easting=673444.16; Northing=554968.50
9. SURFACE ELEVATION	
10. DATE STARTED	11/19/93
11. DATE COMPLETED	11/19/93
12. OVERBURDEN THICKNESS	NA
13. DEPTH DRILLED INTO ROCK	NA
14. TOTAL DEPTH OF HOLE	10.00 ft.
15. DEPTH GROUNDWATER ENCOUNTERED	NONE
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	NA
18. GEOTECHNICAL SAMPLES	No
DISTURBED	
UNDISTURBED	
19. TOTAL NUMBER OF CORE BOXES	NA
20. SAMPLES FOR CHEMICAL ANALYSIS	Yes
	SW8240, Metals
	SW8270, E418.1
21. TOTAL CORE REC.	NA
22. DISPOSITION OF HOLE	Vertical
GROUTED	Grout
MONITORING WELL	
OTHERS (SPECIFY)	
23. SIGNATURE OF INSPECTOR	David R. Robbins

ELEV. a	DEPTH b	GRAPHIC LOG c	DESCRIPTION OF MATERIALS d	SPLIT SPOON (ppm) e	HEAD-SPACE (ppm) f	BLOW COUNTS g	ANALYTICAL SAMPLE NO. h
			SILTY SAND (SM): dark brown (7.5YR 3/3), fine grained, moist, nonplastic, medium dense.				
			SILTY SAND (SM): reddish yellow (7.5YR 6/6), fine grained, moist, nonplastic, medium dense.	0.0	0.0	6/5/5/5	
	2			0.0	0.0	8/14/14/9	
	4		POORLY GRADED SAND (SP): red (2.5YR 4/6), fine grained, with fine gypsum crystals, moist, nonplastic, medium dense.	56.2	160.5		123-B02-01-01
	6		Blackish gray staining, moderate petroleum odor.	65.2	1225.0		
	8		CLAYEY SAND (SC): fine grained, with blackish gray staining, strong petroleum odor, moist, nonplastic.		>9000		123-B02-02-01
			Total Depth = 10.0 ft.				

Appendix A-3

Portions of the *Closure Report For Remediation of POL – Contaminated Sites and Oil/Water Separator Removals, Holloman Air Force Base, New Mexico, July – November 1995*

EBASCO Services, Inc. and Groundwater Technology Government Services, Inc., November 1995

CLOSURE REPORT FOR REMEDIATION OF POL - CONTAMINATED SITES AND OIL/WATER SEPARATOR REMOVALS HOLLOMAN AIR FORCE BASE, NEW MEXICO JULY - NOVEMBER 1995

Prepared for:

49 CES/CEV
Holloman Air Force Base, New Mexico

AND

HQ ACC/ESVR
Langley Air Force Base, Virginia

Prepared by:

EBASCO Services, Inc., dba
Foster Wheeler Environmental Corporation
143 Union Blvd., Suite 1010
Lakewood, Colorado 80228-1824

and

Groundwater Technology
Government Services, Inc.
2501 Yale Blvd., S.E.
Albuquerque, New Mexico 87106

Under Contract No. DACW-45-94 D0003
Delivery Order 6, Work Authorization Directive 13 and
Delivery Order 8, Work Authorization Directive 33

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

November 1995

HAFB-12/OW-CLOS.RPT

TABLE 13-1
CHRONOLOGY OF ACTIVITIES DURING WASTE OIL TANK INVESTIGATION AND SITE RECLAMATION AT SWMU 123 - POL WASH RACK - BUILDING 704 HOLLOMAN AFB, NEW MEXICO

DATE	ACTIVITY	NOTES
17 AUG 95	- Mobilized personnel and equipment. - Started building bermed soil storage cell, lined with 40 mil plastic tarp. - Excavated approx. 50 CY of PCS. - Screened soils; range 43-1094 ppm. - Collected 4 sidewall and 1 bottom verification soil samples from the excavation.	No waste oil tank was discovered in area given in the plans during excavation activities. EBASCO, instructed GSI to collect verification samples and backfill the excavation despite soil screening levels above 1,000 ppm on 3 sides of the excavation.
18 AUG 95	- Backfilled (1st time) excavation with gravel up to 5' bgs and native soil to grade. - Re-excavated gravel and soil backfill. - Completed building soil storage cell.	EBASCO instructed GSI to excavate backfill. Adequate compaction of the final backfill from 7.5 to 5 ft. bgs could not be assured since workmen are not permitted in excavations deeper than 5 ft. bgs.
21 AUG 95	- Backfilled (2nd time) excavation with mixed gravel and native soil to grade. - Restore site and mobilize to SWMU 3.	

TABLE 13-2
SUMMARY OF NATIVE SOIL CONFIRMATION ANALYTICAL RESULTS AT SWMU 123 - BUILDING 704 HOLLOMAN AFB, NEW MEXICO

Sample No. SWMU-123-	-1-7	-2-7	-3-7	-4-7	-5-7
Sample Location	SE Corner	SW Corner	NE Corner	NW Corner	Center
Date Sampled	8/17/95	8/17/95	8/17/95	8/17/95	8/17/95
TRPH by 418.1 (mg/kg)	7,400	4,600	23	36	89
BTEX by 8021A					
Benzene (mg/kg)	39	5.1	<0.05	<0.05	<0.05
Toluene (mg/kg)	10	35	<0.10	<0.10	<0.10
Ethylbenzene (mg/kg)	32	81	<0.10	<0.10	<0.10
Xylenes (mg/kg)	140	140	<0.10	<0.10	<0.10

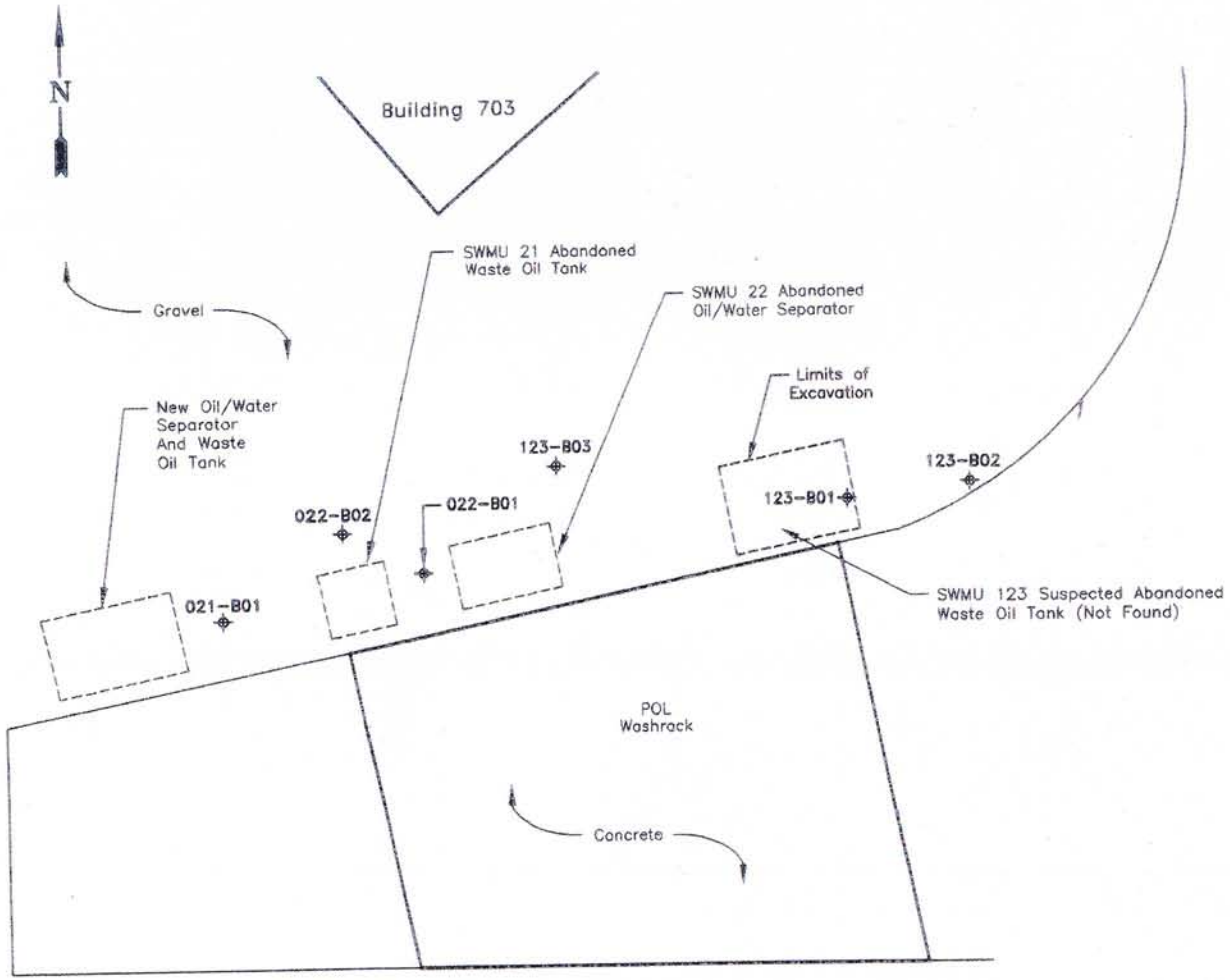
Notes:

< = Constituent not detected above laboratory quantitation limit

TABLE 13-3
SUMMARY OF STOCKPILE SOIL ANALYTICAL RESULTS WITH DUPLICATES AT SWMU 123 - BUILDING 704 HOLLOMAN AFB, NEW MEXICO SEPTEMBER 1995

Sample No. SWMU-123	SP (original) - SP-DP (duplicate)		
Sample Type	Composite		
Date Sampled	8/22/95		
Results	Original	Duplicate	RPD
TRPH by 418.1 (mg/kg)	440	160	93%
Aromatic Volatiles by 8021A (mg/kg)			
Benzene	0.20	0.18	11
Toluene	<0.10	<0.10	0
Ethylbenzene	0.99	0.95	4.1
Xylenes	1.0	0.86	15
BTEX Total	2.2	2.0	9.5
TPH as Gasoline	270	260	3.7
Lead by 7421 (mg/kg)	21	22	4.6
Miscellaneous Waste Characterization Analysis			
Closed Cup Flashpoint by ASTM D-93 (°F)	>200	>200	0
Paint Filter by EPA 9095	No Liquids	No Liquids	NA
pH by EPA 9045A	7.3	7.2	1.4
Total Cyanide by EPA 9010A (mg/kg)	<2.0	<2.0	0
Reactivity Sulfide by SW 846 7.3.4.2 (mg/kg)	<25	<25	0

Notes: RPD = Relative Percent Difference
< = Constituents not detected above laboratory quantitiation limit
NA = Not Analayzed



LEGEND

123-B03 ⌖ Soil Boring Location From Radian 1994

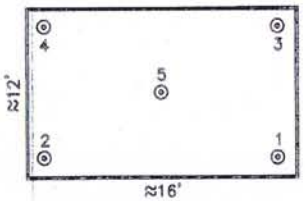
⊙ Sample Collection Location

Notes:

1. Site Features Are Approximate.
2. No Waste Oil Tank Found During SWMU 123 Excavation Activities. Believed to Have Been Removed Previously.

0 Feet 15
Scale

Enlargement of Excavation



(50 CY of PCS Removed)
Scale: NTS

Closure Sample Results

Location	Depth (ft. bgs)	TRPH Analytical Results (mg/kg)
1	7	7,400
2	7	4,600
3	7	23
4	7	36
5	7	89

B10710 (1:15)

Figure 13-1 Site Map
SWMU 123, Building 704 Waste Oil Tank

HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

3. Generator's Name and Mailing Address
Holloman Air Force Base
Holloman Air Force Base, NM

Contract No.
DACW45-94-D-083/006

4. Generator's Phone ( )

5. Transporter 1 Company Name: Mills Environmental Services
US EPA ID Number: NM

Shipment #123

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address: Mills Environmental Services - UP-934
1 mile North of Newark, NM
Newark, NM
10. US EPA ID Number

A. Transporter's Phone: 505-392-44
B. Transporter's Phone
C. Facility's Phone: 505-392-48

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon contaminated soils from POL and Oil/Water Separators			Bulk	
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: WARREN NEFF
Signature: Warren Neff
Month Day Year: 04 04 95

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year: 04

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name
Signature
Month Day Year

GENERATOR
TRANSPORTER
FACILITY

GENERATOR'S COPY

STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER RHLWD

Vehicle Identification 510 112

Name of Shipper

Origin of Shipment

Destination of Shipment

7/6 150

lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all accessory pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed _____ Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC - 19
AS AMENDED EFFECTIVE JUNE 1, 1976

The gross and tare weights were obtained at scale:

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S) /	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M. /	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S) /	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M. /	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☑

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 11-1-75 B/L No. _____ (Driver's Signature)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1 -N -1/5

3. Generator's Name and Mailing Address
Holloman Air Force Base
Holloman Air Force Base, NM

Contract No.
DACW45-94-D-003/006

4. Generator's Phone ( )

5. Transporter 1 Company Name
Rhino Environmental Services

6. US EPA ID Number
N/A

SWMU #123

7. Transporter 2 Company Name

8. US EPA ID Number

SWMU #129

9. Designated Facility Name and Site Address
Rhino Environmental Services - DP-994
1 mile North of Newman, NM
Newman, NM

10. US EPA ID Number

A. Transporter's Phone

B. Transporter's Phone 505-392-44

C. Facility's Phone 505-392-48

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon contaminated soils from POL and Oil/Water Separators			Bulk	
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Wastes.

Printed/Typed Name: Warren Neff | Signature: Warren Neff | Month | Day | Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: [illegible] | Signature: [illegible] | Month | Day | Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

NO. [illegible]

STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER RHINO

Vehicle Identification 550 111

Name of Shipper

Origin of Shipment

Destination of Shipment

[illegible]410

lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC - 19
AS AMENDED EFFECTIVE JUNE 1, 1978

Signed [illegible] Weighmaster

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☒

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE [illegible] B/L No.

(Driver's Signature)

Appendix A-4

Portions of the *Additional Characterization of POL-Contaminated Sites SWMU-3, SWMU-8, SWMU-36, SWMU-123 and OT-44, Holloman Air Force Base, New Mexico*

Groundwater Technology Government Services, Inc., February 1996

FILE 17-G
j.m.

GROUNDWATER
TECHNOLOGY
GOVERNMENT SERVICES

Groundwater Technology Government Services, Inc.
2501 Yale Boulevard SE, Suite 204 Albuquerque, NM 87106 USA
Tel: (505) 242-3113 Fax: (505) 242-1103

February 29, 1996

Job No. 830012211.01.030

Mr. Mark Mercier
Omaha District
U.S. Army Corps of Engineers
ATTN: CEMRO-ED-EA
215 North 17th Street
Omaha, Nebraska 68102

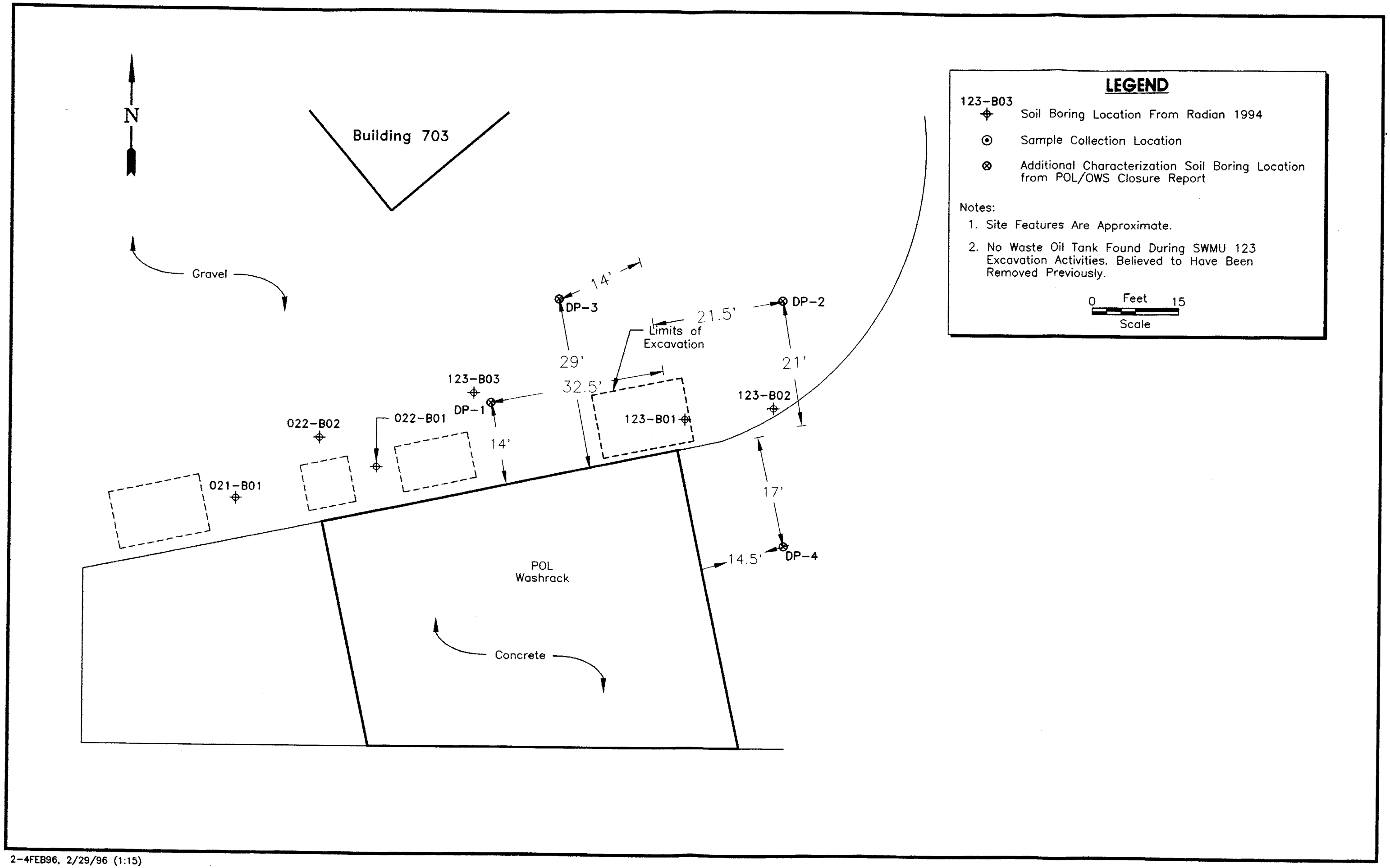
Re: ADDITIONAL CHARACTERIZATION OF POL-CONTAMINATED SITES SWMU-3, SWMU-8, SWMU-36, SWMU-123 AND OT-44 HOLLOMAN AIR FORCE BASE, NEW MEXICO
Delivery Order 11 Work Authorization Directive 1
Under Contract No. DACW45-94-D-0003

Dear Mr. Mercier:

Introduction

Additional characterization to support remedial design efforts for four Solid Waste Management Unit Sites (SWMUs) and one Installation Restoration Program (IRP) site was conducted between January 29, 1996 and February 2, 1996. The characterization was performed to determine the extent of soil in excess of 1,000 parts per million (ppm) at these sites. To accomplish this, soil samples were collected and analyzed at SWMU 3, SWMU 8, SWMU 36, SWMU 123, and Site OT-44 (AOC-P). Figure 1 is a map of the base indicating the locations of the five sites.

Soil samples were collected from each site using a direct push technology (DPT) soil sampling device, field screened for volatile organics constituents, and analyzed for total petroleum hydrocarbons (TPH) (gasoline and diesel range), total recoverable petroleum hydrocarbons (TRPH), and benzene, toluene, ethylbenzene and xylenes (BTEX). These data will be used to determine the approximate mass of petroleum-contaminated soil



2-4FEB96, 2/29/96 (1:15)

Figure 5: Site Map
SWMU 123, Building 704 Waste Oil Tank and Additional Characterization Sampling Locations.

TABLE 5
SUMMARY OF SOIL ANALYTICAL RESULTS
SWMU 123 BUILDING 704 OWS
HOLLOMAN AFB, NM
Delivery Order 11 Work Authorization Directive 1
February, 1996

SAMPLE NO. AND DEPTH (FEET)	SWMU-123-DP-1-8 (8' TO 9')	SWMU-123-DP-1-8-11 (11' TO 12')	SWMU-123-DP-3-6 (6' TO 7')	SWMU-123-DP-3-10 (10' TO 11')	SWMU-123-DP-4-7 (7' TO 8')	SWMU-123-DP-4-9 (9' TO 10')
PARAMETER						
Method 8015 TPH as Gasoline (mg/kg)	0.3J	0.7J	<10	<10	<10	202
Method 8015 TPH as Diesel (mg/kg)	<10	<10	<10	<10	<10	19
Method 418.1 TRPH (mg/kg)	<20	<20	<20	<20	76	114
Method 8020 (ug/kg)						
Benzene	<50	<50	<50	<50	<50	<400
Toluene	<100	<100	<100	<100	<100	<400
Ethylbenzene	<100	<100	<100	<100	<100	1300
Xylenes	<200	<200	<200	<200	800	2090
Total BTEX	--	--	--	--	800	3390

< = constituent not detected

HTRW DRILLING LOG

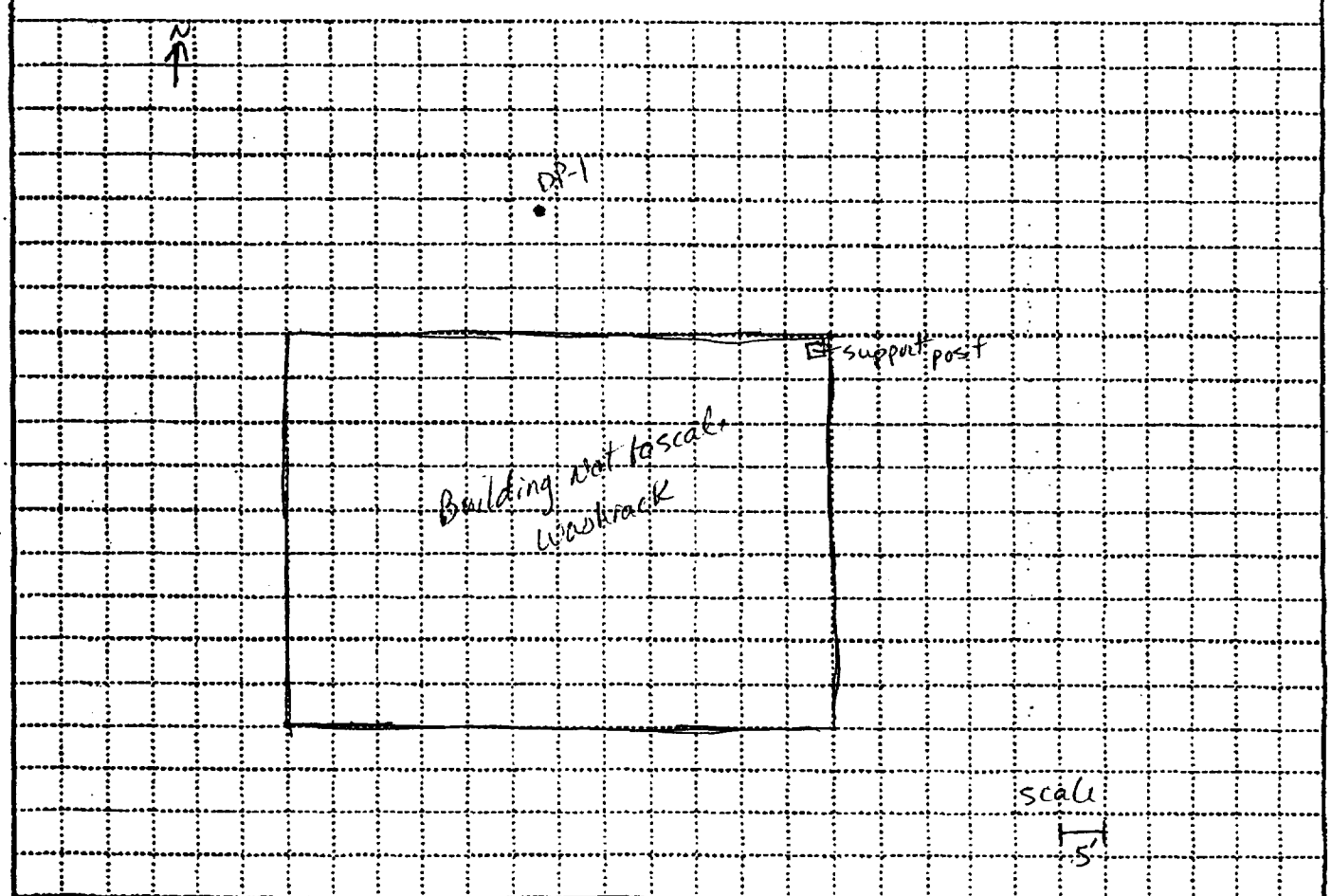
DISTRICT: SW		HOLE NUMBER: DP-1
1. COMPANY NAME: GTI-GSI	2. DRILL SUBCONTRACTOR: TEG	SHEET 1 OF SHEETS
3. PROJECT: DO 11 WADI 830012211.01020	4. LOCATION: SWMU 3-123 Building 704 Holloman AFB	
5. NAME OF DRILLER: Kevin Vanderhey	6. MANUFACTURER'S DESIGNATION OF DRILL: Stratoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" split spoon pushrod	8. HOLE LOCATION: DP-1 See Below	
	9. SURFACE ELEVATION: —	
	10. DATE STARTED: 1/30/96	11. DATE COMPLETED: 1/30/96
12. OVERBURDEN THICKNESS: —	15. DEPTH GROUNDWATER ENCOUNTERED: 12'	
13. DEPTH DRILLED INTO ROCK: —	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: —	
14. TOTAL DEPTH OF HOLE: ~~[illegible]~~ TD 14'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
—	—	—	—

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	2	—	—	—	—	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	22. SIGNATURE OF INSPECTOR
—	Bentonite	—	—	Jim Leivalh

LOCATION SKETCH/COMMENTS — SCALE:



PROJECT	HOLE NO.
DO 11 WADI 830012211.01020	DP-1

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

SWMU 123

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: DP-1

PROJECT: DOIL WADI 830012211.01020

INSPECTOR: Tim Cawallen

SHEET 2 OF SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
0		Red Brown (5YR 4/3) Fine SAND some silt. trace clay trace gravel (dry, No odors) $CaCO_3$ present	0ppm	—		soft	Recov 2'10"
1							
		pink white (5YR 8/2) Fine SAND, some silt, trace clay (moist, No odors) $CaCO_3$ - gypsum	0ppm	—		medium	
2							
			0ppm				
3		Pink (5YR 7/4) Fine SAND some silt. (moist, No odors) $CaCO_3$ - gypsum	0ppm	—		~~medium~~ soft	Recov 2'
4							
			0ppm				
5		yellow Red (5YR 4/6) Fine SAND and SILT. trace clay, (damp) No odors $CaCO_3$ - gypsum	0ppm	—		medium	
6		yellow Red (5YR 4/6) Fine SAND and SILT. trace clay (moist) No odors $CaCO_3$ - gypsum	0ppm	—		medium	Recov 2'8"
7		white (5YR 8/1) Fine SAND some silt, trace clay (moist) No odors $CaCO_3$ - gypsum	0ppm	—	SM123-1-8	Hard	
8							
			0ppm				
9		(TL) Disregard this				Hard	Recov. 2'8"
		white (5YR 8/1) Fine SAND some silt. trace clay (damp) No odors $CaCO_3$ - gypsum	0.0ppm	—			
10							

PROJECT: DOIL WADI 830012211.01020

HOLE NO. DP-1

ENG FORM 5056A-R, AUG 94

(Proponent: CECW-EG)

TOTAL P.06

Swmu123

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: DP-1

PROJECT: DOIL WADI 830012211.01020

INSPECTOR: Jim Pewalk

SHEET 3 OF 3 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
10		Changes color to Redyellow (5YR 7/6) content same as above (moist) No odors $CaCO_3$-gypsum				very hard	
11			0.0ppm	—	SW123-1-11		
		▽ water	0.0ppm	~~0.0ppm~~			
12		Redyellow (5YR 7/6) Fine SAND some silt, trace clay (wet) No odors $CaCO_3$-gypsum				very Hard	Recov - 2'
			0.0ppm				
13		turns (moist) and color changes to white (5YR 8/1) soil content same as above					
			0.0ppm				
14		Bottom of hole Bentonite to surface					

PROJECT: DOIL WADI 830012211.01020

HOLE NO. DP1

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

TOTAL P.06

Swmu 123-POL

HTRW DRILLING LOG

DISTRICT: SW		HOLE NUMBER: DP-4
1. COMPANY NAME: GTI-GSI	2. DRILL SUBCONTRACTOR: TEG	SHEET 1 OF SHEETS 2
3. PROJECT: DO11 WAD1 830012211.01020	4. LOCATION: Swmu-123-POL Holloman AFB	
5. NAME OF DRILLER: Kevin Vandrihey	6. MANUFACTURER'S DESIGNATION OF DRILL: Stratoprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" split spoon pushed	8. HOLE LOCATION: DP-4 see below	
	9. SURFACE ELEVATION: —	
	10. DATE STARTED: 1/31/96	11. DATE COMPLETED: 1/31/96
12. OVERBURDEN THICKNESS: —	15. DEPTH GROUNDWATER ENCOUNTERED: 10.5'	
13. DEPTH DRILLED INTO ROCK: —	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: —	
14. TOTAL DEPTH OF HOLE: 14'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —	

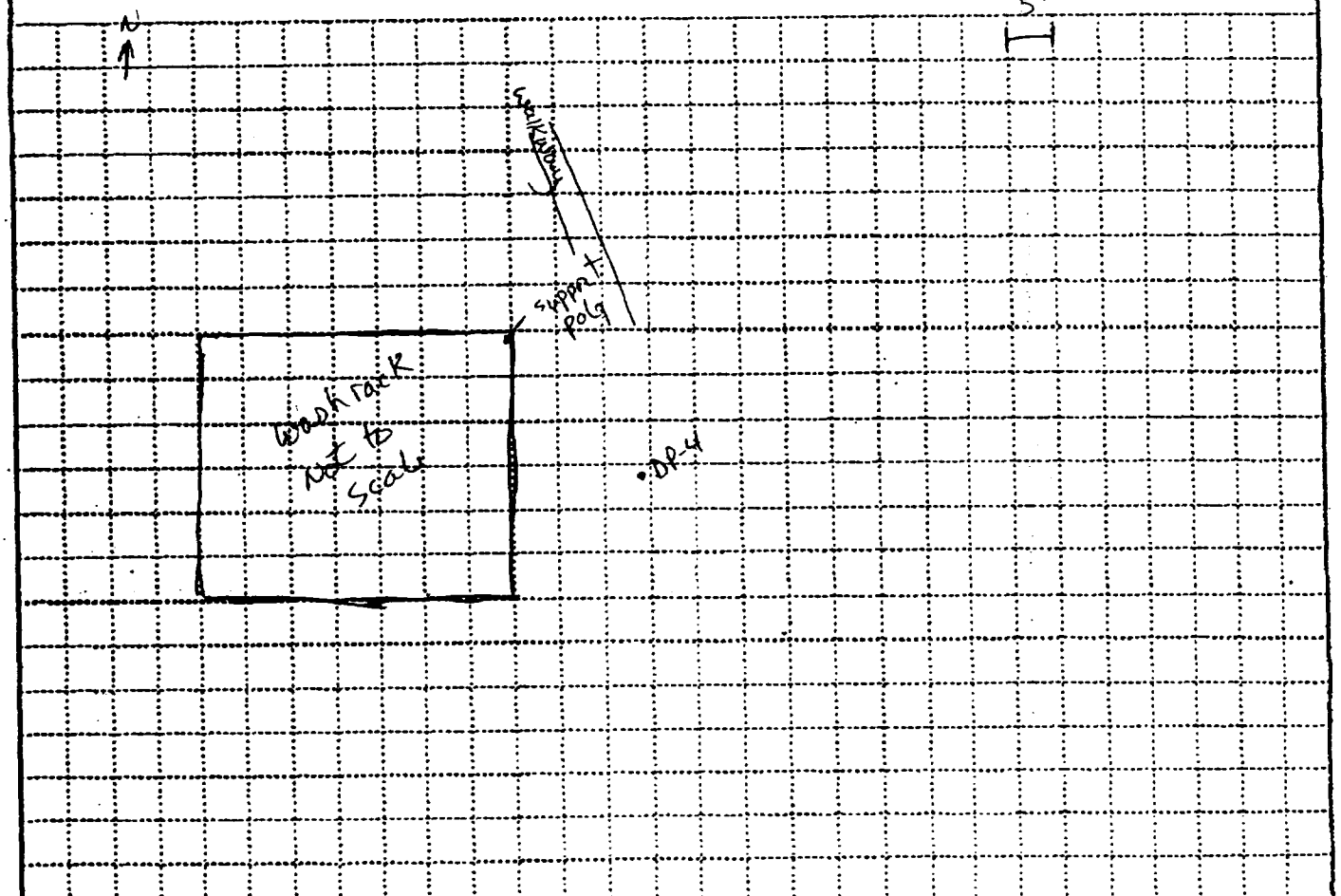
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
—	—	—	

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %
	2	—	—	—	—	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
—	Bentonite	—	—	Jim Linwall

LOCATION SKETCH/COMMENTS

SCALE: 5'



PROJECT	HOLE NO.
DO11 WAD1 830012211.01020	DP-4

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

SWMU-123

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: DP-4

PROJECT: DO11 WADI-830012211.0102D

INSPECTOR: Tim Lewallen

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
0		Weak Red (2.5YR 5/3) Fine SAND trace silt, trace gravel. (dry, No odors) $CaCO_3$ present - gypsum	0ppm	—		Soft	Recov 2'8"
1							
		Pink (2.5YR 5/3) Fine SAND, Little silt, trace clay. (dry) (No odors) $CaCO_3$ present - gypsum	0ppm	—		Soft	
2							
3			0ppm				
		Pink (2.5YR 5/3) Fine SAND Little silt, trace clay. (dry, No odors) $CaCO_3$ present gypsum	0ppm	—		Soft	Recov 2'8"
4							
		Weak Red (2.5YR 5/4) Fine SAND, Little silt, trace clay (dry, No odors) No $CaCO_3$ - gypsum	0ppm	—		Soft	
5							
6			0ppm				
		Weak Red (2.5YR 5/4) Fine SAND Little silt, trace clay (dry, No odors) No $CaCO_3$ gypsum	0ppm	—	Sm123-4 -7	~~Soft~~ medium	Recov 3'
7							
		Pink white (2.5YR 8/2) Fine SAND Little silt (dry, No odors) $CaCO_3$ present - gypsum	0.9ppm	—		medium	
8							
		light gray (2.5YR 7/1) Fine SAND Little silt, trace clay (moist) TPH odor, $CaCO_3$ present - gypsum	3000ppm	—	Sm123-4 -9	Hard	
9							
		~~Light~~ Gray (2.5YR 6/1) Fine sand Little silt, trace clay. (damp, TPH odor) No $CaCO_3$ - gypsum	3ppm	—		Hard	Recover 3'
10	▽						
11	water		7ppm				
12		Light Gray (2.5YR 7/1) same as above	25ppm	—		Hard	
		Same as above		—		Hard	Recov 2'
		Pink (2.5YR 5/3) Fine SAND, Little silt (wet) No odors $CaCO_3$ present gypsum	3.4ppm	—		Hard	
13							
		Strong Brown (2.5YR 5/6) Fine SAND Little silt, trace clay. (moist, No odors) No $CaCO_3$ present - gypsum	0.3ppm	—		Hard	
14							
		Bottom of Hole Bentonite & water to surface Jet set					

PROJECT: DO11 WADI 830012211.0102

HOLE NO. DP-4

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

TOTAL P.06

HTRW DRILLING LOG

DISTRICT: SW		HOLE NUMBER: DP-2
1. COMPANY NAME: GTI-GSE	2. DRILL SUBCONTRACTOR: TEG	SHEET 1 OF SHEETS 2
3. PROJECT: DOIIWAD1 830012211.01020	4. LOCATION: SUMU123 - POL Holloman AFB	
5. NAME OF DRILLER: Kevin Vandenberg	6. MANUFACTURER'S DESIGNATION OF DRILL: Strateprobe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" split spoon push Rod	8. HOLE LOCATION: DP-2 See below	
	9. SURFACE ELEVATION: —	
	10. DATE STARTED: 1/31/96	11. DATE COMPLETED: 1/31/96
12. OVERBURDEN THICKNESS: —	15. DEPTH GROUNDWATER ENCOUNTERED: 12'	
13. DEPTH DRILLED INTO ROCK: —	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: —	
14. TOTAL DEPTH OF HOLE: 14'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —	

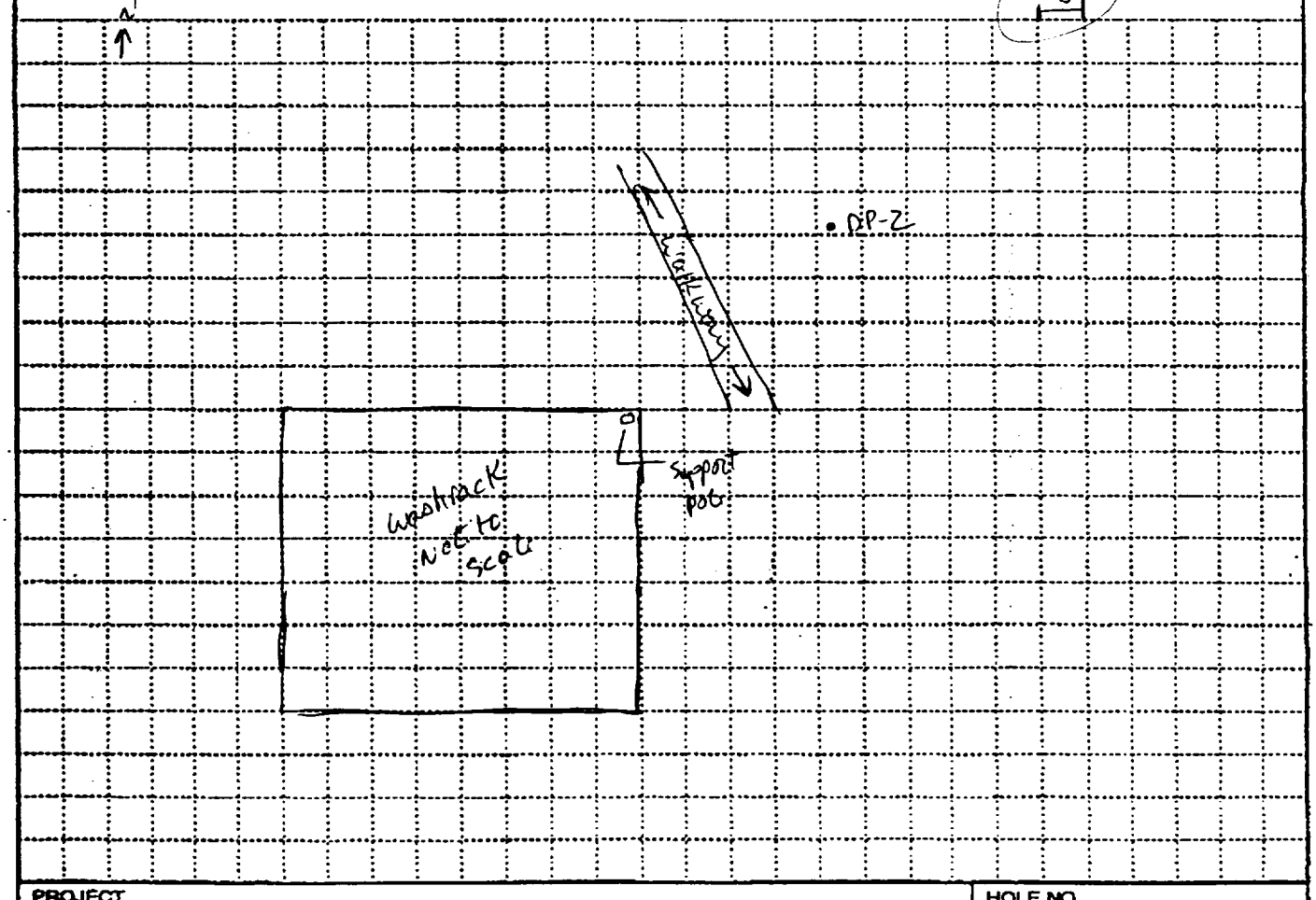
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
—	—	—	—

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	2	—	—	—	—	%

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
—	Bentonite	—	—	Jim Pewalk

LOCATION SKETCH/COMMENTS

SCALE: 3'



PROJECT	HOLE NO.
DOIIWAD1 830012211.01020	DP-2

ENG FORM 5056-R, AUG 94 (Proponent: CECW-EG)

SWMU-123

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: DP-2

PROJECT: DOIIWAD1 83001221.01020

INSPECTOR: Tim Lewallen

SHEET 2 OF 2 SHEETS

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
0		Red Brown (5YR 4/3) Fine SAND, little silt, trace gravel (dry) (No odors) CaCO3 present, gypsum				soft	Recov 3'
1			0ppm	—			
2		Red yellow (5YR 7/6) Fine SAND, some silt, trace clay, (dry, No odors) CaCO3 present - gypsum	0ppm	—		soft	
3			0ppm				
4		Red yellow (5YR 7/6) Fine SAND some silt, trace clay (dry, No odors) No CaCO3 Present - gypsum	0ppm	—		soft	Recov 3'
5			0ppm				
6		dark Red (2.5YR 4/8) Fine SAND, trace silt, trace clay (dry, No odors) No CaCO3 present - gypsum	0ppm	—	SM123-2 -11	medium	
7		dark Red (2.5YR 4/8) Fine SAND, trace silt, trace clay (dry, No odors) No CaCO3 - gypsum	0ppm	—		medium	Recov 2'
8			2.2ppm				
9		Red (2.5YR 5/6) Fine SAND little silt, trace clay (dry, No odors) CaCO3 present - gypsum	2.2ppm	—		medium	
10		Red pink (2.5YR 7/8 - 8/4) Fine SAND trace silt. (moist) (No odors) CaCO3 present - gypsum	2.2ppm			Hard	Recov. 3'
11			2.2ppm	—	SM123-2 -11		
12	▽		2.2ppm				
13		Red (2.5YR 6/6) Fine SAND little silt, (damp) No odors CaCO3 present - gypsum	3.6ppm	—	~~SM123-2~~	Hard	Recov 2'
14			2.2ppm				
		Bottom of Hole Bentonite & water to surface					

PROJECT: DOIIWAD1 83001221.01020

HOLE NO. DP-2 SWMU123

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

TOTAL P.06

HTRW DRILLING LOG

1. COMPANY NAME: GTI-GSI	2. DRILL SUBCONTRACTOR: TEG	DISTRICT: SW; HOLE NUMBER: DP-3; SHEET 1 OF 2 SHEETS
3. PROJECT: DO11WAD1 830012211.01020	4. LOCATION: SWMU123-POL Holloman AFB	
5. NAME OF DRILLER:	6. MANUFACTURER'S DESIGNATION OF DRILL: Strata probe	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 2" split spoon pushrod	8. HOLE LOCATION: DP-3 See Below	
	9. SURFACE ELEVATION: —	
	10. DATE STARTED: 1/31/96	11. DATE COMPLETED: 1/31/96
12. OVERBURDEN THICKNESS: —	15. DEPTH GROUNDWATER ENCOUNTERED: 11'	
13. DEPTH DRILLED INTO ROCK: —	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: —	
14. TOTAL DEPTH OF HOLE: 14'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —	

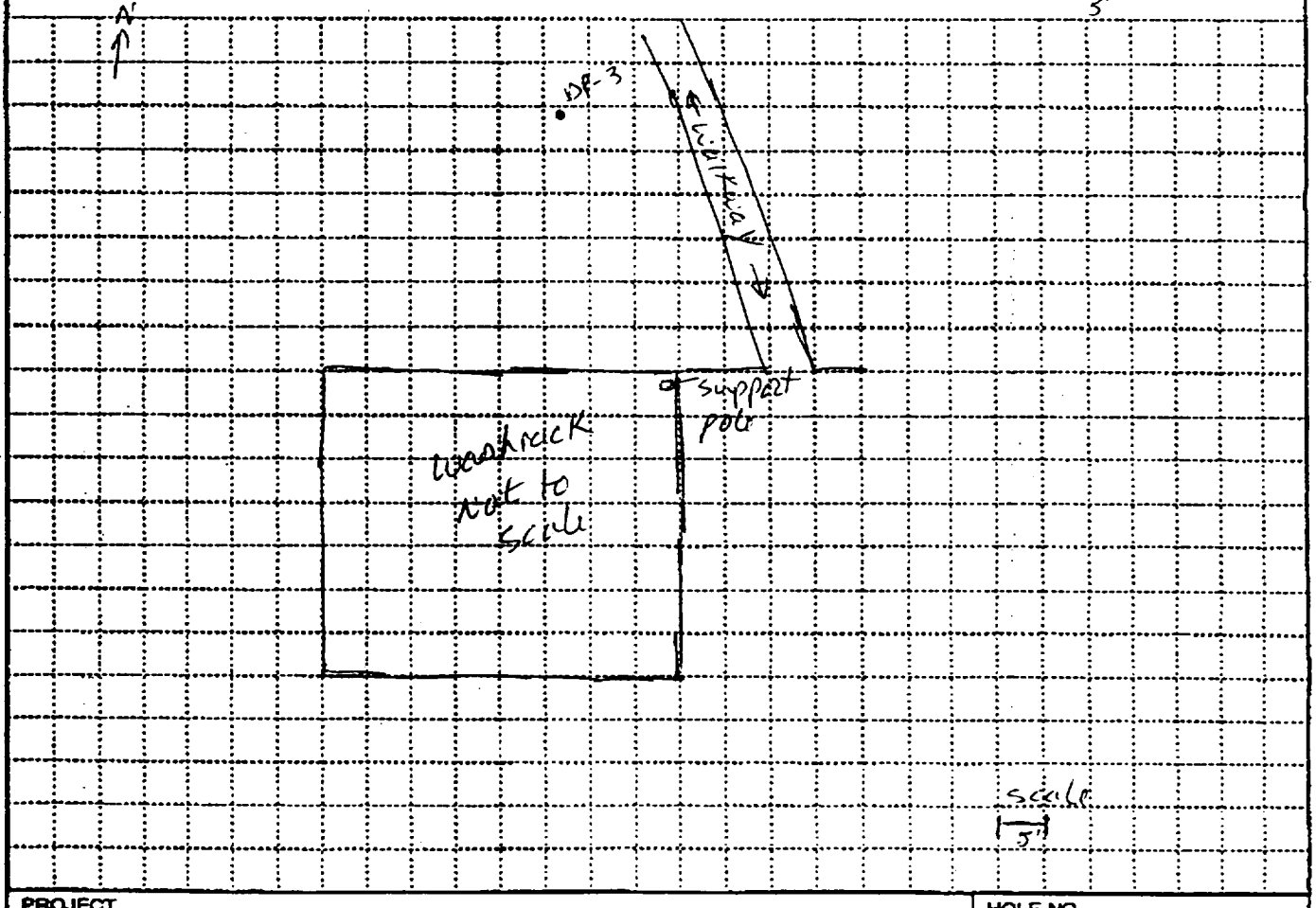
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
—	—	—	—

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY
	2	—	—	—	—	%

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
—	Bentonite	—	—	Jim Lewallen

LOCATION SKETCH/COMMENTS

SCALE: 5'



PROJECT	HOLE NO.
DO11WAD1 830012211.01020	DP-3

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

Samu123

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NUMBER: DP-3

PROJECT: DOIL WADI 830012211.01020

INSPECTOR: Tim Lewallen

SHEET 2 OF 2

ELEV. (a)	DEPTH (b)	DESCRIPTION OF MATERIALS (c)	FIELD SCREENING RESULTS (d)	GEOTECH SAMPLE OR CORE BOX NO. (e)	ANALYTICAL SAMPLE NO (f)	BLOW COUNT (g)	REMARKS (h)
0		Light red brown (5YR 6/3) Fine SAND little silt, trace equal (dry, No odors) trace of $CaCO_3$ - Not gypsum		—		soft	Recov 2' 8"
1			0ppm				
		Red Brown (5YR 5/4) Fine SAND, some silt, trace clay. (dry, No odors) $CaCO_3$ present		—		soft	
2			0ppm				
		some Gypsum					
3			0ppm				
		same as above (dry, No odors)		—		soft	Recov 3'
4			0ppm				
		Pink (5YR 8/3) Fine SAND & SILT, trace clay (dry, No odors), $CaCO_3$ - gypsum		—		soft	
5			~~0ppm~~				
		Red yellow (5YR 6/8) Fine SAND, little silt. (dry, No odors) No $CaCO_3$ - ~~gypsum~~ Gypsum at bottom	0ppm	—		soft	
6			0ppm		SM123-3-6		
		Same as above (dry, No odors)		—		soft	Recov 2' 8"
7		White (10YR 8/1) Fine SAND and SILT. trace clay (dry, No odors) No $CaCO_3$ present Gypsum	0ppm			medium	
8			0ppm	—			
9			0ppm				
		Red Yellow (5YR 7/6) Fine SAND some silt, trace clay. (damp) (No odors) $CaCO_3$ present - gypsum				medium	Recov 3'
10			0ppm		SM123-3-10		
11			0ppm	—			
		Red Yellow (5YR 6/6) Fine SAND little silt, trace clay (moist) (No odors) No $CaCO_3$ - gypsum		—		medium	
12			0ppm				
		Red yellow (5YR 6/6) Fine SAND, some silt, trace clay. (wet) (No odors) No $CaCO_3$ - gypsum		—		medium	Recov 2'
13			0ppm				
14			0ppm				
		Bottom of Hole					
		Bentonite & water to surface					

PROJECT: DOIL WADI 830012211.01020

HOLE NO. DP-3

ENG FORM 5056A-R, AUG 94 (Proponent: CECW-EG)

TOTAL P.06

Appendix A-5

Portions of the *Final Closure Report Addendum For Phase II Remediation of POL-Contaminated Sites and Oil/Water Separator and Waste Oil Tank Removals, Holloman Air Force Base, New Mexico*

Foster Wheeler Environmental Corporation, December 1997

FINAL CLOSURE REPORT ADDENDUM
FOR PHASE II
REMEDIATION OF POL-CONTAMINATED SITES AND
OIL/WATER SEPARATOR AND WASTE OIL TANK REMOVALS
HOLLOMAN AIR FORCE BASE, NEW MEXICO

Prepared for:
49 CES/CEVR
Holloman Air Force Base, NM
and
HQ ACC/CEVC
Langley Air Force Base, VA

Prepared by:
Foster Wheeler Environmental Corporation
143 Union Boulevard, Suite 1010
Lakewood, Colorado 80228-1824

Under Contract No. DACW45-94-D0003

Delivery Order 11, Work Authorization Directive 3

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

December 1997

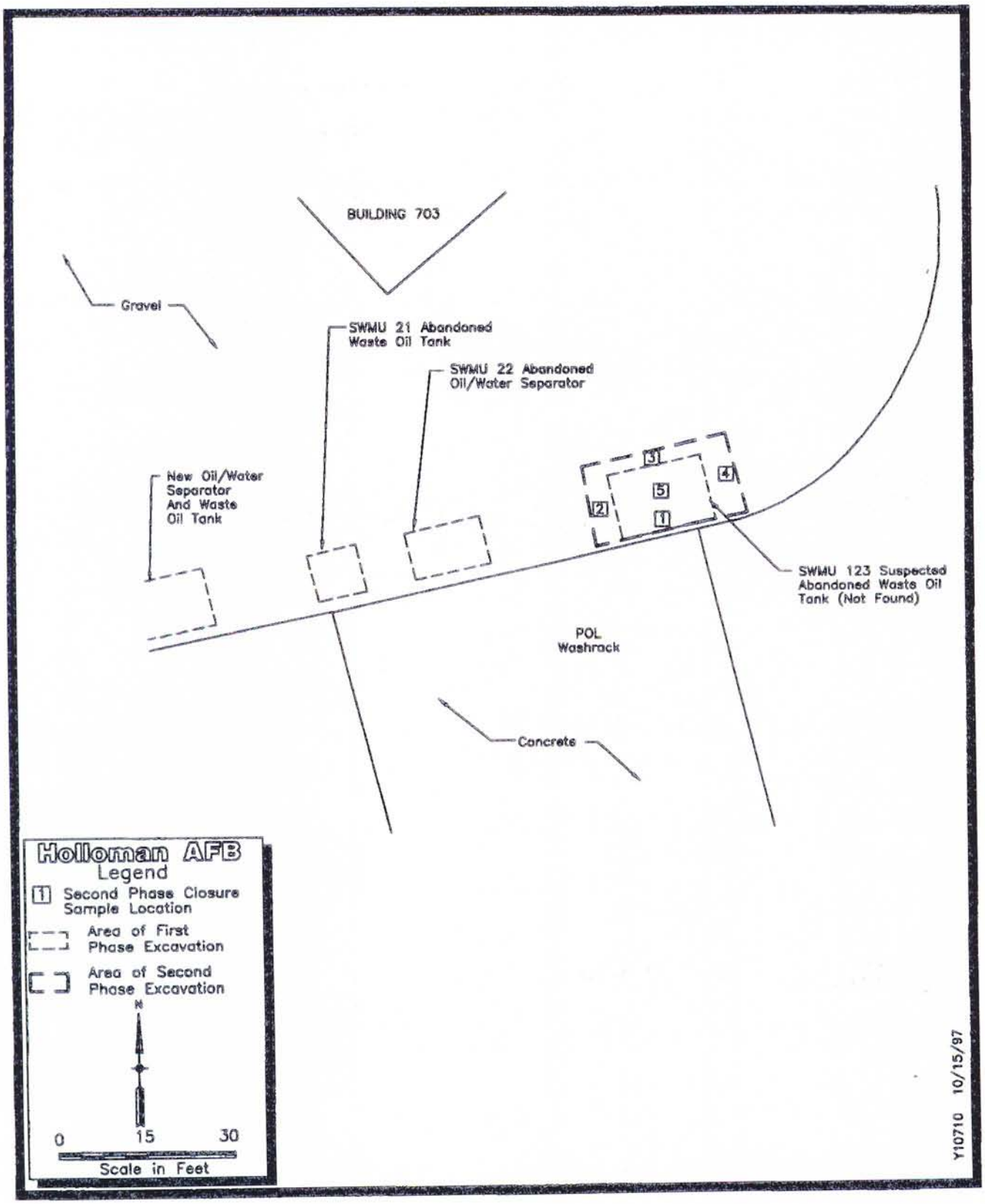


Figure 5-1. SWMU 123, Building 704 WOT Site Map

Table 5-1

Summary of Site Closure and Stockpile Sample Analytical Results for Soil at SWMU 123, Building 704 WOT

Sample I.D	SWMU123-01-09	SWM123-02-09	SWMU123-03-09	SWMU123-04-09	SWMU123-05-11	SWMU123-SP1*	SWMU123-SP2*
Figure I D.	1	2	3	4	5		
Date Sampled	4/8/97	4/8/97	4/8/97	4/8/97	4/8/97	4/8/97	4/8/97
TRPH by Method 418 1 (mg/kg)	4,100	<20	<20	<20	32	2,700	2,500
VOCs by Method 1311/8240 (mg/L)	NA	NA	NA	NA	NA	ND	ND
SVOCs by Method 1311/8270B (mg/L)	NA	NA	NA	NA	NA	ND	ND
VOCs by Method 8021A Benzene (mg/kg)	33	<0 05	<0.05	0.08	<0.05	5.2	1
Toluene (mg/kg)	240	<0.10	<0 10	<0.10	<0.10	17	8.1
Ethylbenzene (mg/kg)	320	<0.10	<0 10	<0 10	<0.10	26	18
Xylenes (total) (mg/kg)	480	<0.20	<0.20	<0.20	<0.20	46	34
Metals by Method 9010A Total Cyanide (mg/kg)	NA	NA	NA	NA	NA	<2 0	<2 0
Metals by Method 6010A (mg/kg)	NA	NA	NA	NA	NA		
Barium[1] (5,300)	NA	NA	NA	NA	NA	22	36
Chromium[2] (230)	NA	NA	NA	NA	NA	4 2	<3 0
Metals by Method 7421 Lead (2,000 mg/kg)	NA	NA	NA	NA	NA	2 7	2.1
Paint Filter by Method 9095	NA	NA	NA	NA	NA	NP	NP
Flash Point by Method ASTM D93 (°F)	NA	NA	NA	NA	NA	>200	>200
pH by Method 9045A	NA	NA	NA	NA	NA	7.4	7.4
Reactive Sulfide by SW846 Ch #7	NA	NA	NA	NA	NA	<25	<25

Notes
Shading denotes site closure samples
* = Soil stockpile sample
< = Constituent not detected above laboratory quantitation limit
() = EPA Region VI risk-based criteria for industrial land use
NA = Not analyzed
ND = Not detected
NP = Not present

1 = Risk-based value above expected saturation point, value shown is residential land use risk-based concentration
2 = Represents carcinogenic risk-based concentration

APPENDIX A

SWMU 123

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 0541

2. Page 1 of 1

Emergency Phone #550-111

3. Generator's Name and Mailing Address
Holloman Air Force Base
49 CES/CEV
Holloman AFB, NM

4. Generator's Phone ( ) 505-475-5745

5. Transporter 1 Company Name: Rhino Environmental Services

6. US EPA ID Number: N/A

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address: Rhino Environmental Services
2 mile NW of Newman, Eddy County, NM

10. US EPA ID Number: NM DP1051

A. Transporter's Phone
B. Transporter's Phone 505-843-6464
C. Facility's Phone 505-885-4-0932

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous Contaminated Soils	1	BULK	1/4 YD	
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Materials

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
FILL N

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: MICHAEL A. JACOBS
Signature: Michael A. Jacobs
Month 9 Day 29 Year 97

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Michael Salmonsson
Signature: Michael Salmonsson
Month 9 Day 29 Year 97

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month Day Year

GENERATOR — TRANSPORTER — FACILITY

GENERATOR'S COPY

№ 6523 STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER Rhexio

Vehicle Identification 550-111

Name of Shipper

Origin of Shipment Destination of Shipment

97250 lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment

lbs. Net — Net weight of the shipment

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
U.S. PARTS (MC - 15
AS AMENDED EFFECTIVE JUNE 1, 1970

Signed M. Patrauds
Weighmaster

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M. ✓
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☒ Chg 5.00

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 4-29-97 B/L No. (Driver's Signature)

№ 6528 STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER Rhexio

Vehicle Identification 550-111

Name of Shipper

Origin of Shipment Destination of Shipment

3320 lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
U.S. PARTS - MC - 15
AS AMENDED EFFECTIVE JUNE 1, 1970

Signed M. Patrauds
Weighmaster

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M. ✓

As shown by attached weight ticket(s) prepared by the weighmaster

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☒ Chg

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 2-5-97 B/L No. (Driver's Signature)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No

Manifest Document No. 8542

2. Page 1 of 1

Truck NM 350111

3. Generator's Name and Mailing Address: Kirtland Air Force Base, 9 CES/CEV, Albuquerque NM

4. Generator's Phone ( ) 505-845-5505

5. Transporter 1 Company Name: Rhino Environmental Services

6. US EPA ID Number: N/A

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address: Rhino Environmental Services, North W of Newman, Otero County, NM

10. US EPA ID Number: NM0001

A. Transporter's Phone

B. Transporter's Phone 505

C. Facility's Phone 505-932-

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Underground contaminated Soils	1	DOT 6	45500	
b.				
c.				
d.				

J. Additional Descriptions for Materials Listed Above: Non-Hazardous Materials

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: CSM

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Materials.

Printed/Typed Name: MICHAEL A. JACOBS — Signature: [signature] — Month 4 Day 30 Year 07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: [illegible] 350111 — Signature: [signature] — Month 4 Day 30 Year 07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name — Signature — Month Day Year

GENERATOR'S COPY

N: 013226 STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER RHINO

Vehicle Identification 550/111

Name of Shipper

Origin of Shipment Destination of Shipment

7,720 lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only thereon, including full gasoline tank, and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION "EX PARTE" NO. 19 AS AMENDED EFFECTIVE JUNE 12, 1979

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☒

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT

DATE 4-30-97 Driver

Page 5 of 8

Form designed for [illegible]

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No

Manifest Document No. 0343

2. Page 1 of [illegible]

Truck No [illegible]

Service 123

3. Generator's Name and Mailing Address: Holloman Air Force Base, 49 CES CEV, Holloman AFB, NM

4. Generator's Phone ( ) 505-475-[illegible]

5. Transporter 1 Company Name: Rhino Environmental Service

6. US EPA ID Number: N/A

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address: Rhino Environmental Services, Inc. Landfill NW of New Mexico, Otero County, NM

10. US EPA ID Number: DP1051

A. Transporter's Phone

B. Transporter's Phone 464

C. Facility's Phone 44-0932

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit WT/Vol
a. Hydrocarbon Contaminated Soils	1	Box	4/4/20	
b.				
c.				
d.				

GENERATOR

D. Additional Descriptions for Materials Listed Above: N.O. Hazardous Materials

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: [illegible]

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: MICHAEL A. JACOBS | Signature: [illegible] | Month 14 Day 30 Year 07

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Michael Smedes SSO-111 | Signature: [illegible] | Month 14 Day 30 Year 07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR'S COPY

N. 013238 STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER Rhino

Vehicle Identification 550-111

Name of Shipper

Origin of Shipment

Destination of Shipment

7940 lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon

lbs. Tare — Tare weight of vehicle, with driver only thereon, including full gasoline tank and all necessary parts, chains, dollies, hand trucks, and other equipment

lbs. Net — Net weight of the shipment

M. Patterson

Signature Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION EX PARTE 3 NCC 19 AMENDED EFFECTIVE JAN. 1, 1957

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W. Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W. Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket, if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON [X] OFF [X]

P/G 500

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT

DATE 4-30-99 B/L No.

(Driver's Signature)

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1 Generator's US EPA ID No

Manifest Document No 2138

2 Page 1 of Towers 550111

Generator's Name and Mailing Address

4 Generator's Phone ( )

123

5 Transporter 1 Company Name

6 US EPA ID Number

7 Transporter 2 Company Name

8 US EPA ID Number

9. Designated Facility Name and Site Address

10 US EPA ID Number

A Transporter's Phone

B Transporter's Phone

C Facility's Phone

11 Waste Shipping Name and Description	12 Containers No	Type	13 Total Quantity	14. Unit Wt/Vol
a	1	DUK	43,700	
b				
c				
d				

Additional Descriptions for Materials Listed Above

E Handling Codes for Wastes Listed Above

15 Special Handling Instructions and Additional Information

GENERATOR

16 GENERATOR'S CERTIFICATION. I certify the materials described above on the manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste

Printed/Typed Name: WARREN ACIE

Signature: [illegible]

Month 4 Day 18 Year [illegible]

TRANSPORTER

17 Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: [illegible] Dennison

Signature: [illegible]

Month [illegible] Day [illegible] Year [illegible]

18 Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

FACILITY

19 Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19

Printed/Typed Name: [illegible]

Signature: [illegible]

Month Day Year

GENERATOR'S COPY

[illegible]-012-BLS-C5 Rev 7/94

N: 013204 STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER RHINO

Vehicle Identification 550/111

Name of Shipper

Origin of Shipment

Destination of Shipment

16430 lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC - 19
AS AMENDED EFFECTIVE JUNE 1, 1970

The gross and tare weights were obtained at scales NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☒

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 4-24-97 B/L No.

(Driver's Signature)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 8339

2. Page 1 of

Generator's Name and Mailing Address

Holloman AFB, NM

4. Generator's Phone ( )

5. Transporter 1 Company Name

6. US EPA ID Number

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address

Envirotech Environmental Services

Little NW of Newman, Grant County, NM

10. US EPA ID Number

A. Transporter 1 Phone

B. Transporter 2 Phone

C. Facility's Phone

11. Waste Shipping Name and Description

	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Contaminated Soils	1		4320	
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

FILL #1

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: WARREN NEFF

Signature

Month Day Year: 7 28 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: MICHAEL SHADDAS SR III

Signature

Month Day: 7 28

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: LARRY DUDDAS

Signature

Month Day Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR'S COPY

N: 013200 STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER Phino

Vehicle Identification 550-111

Name of Shipper

Origin of Shipment Destination of Shipment

75360 lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed M. Patneaude Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC - 10
AS AMENDED EFFECTIVE JUNE 5, 1970

The gross and tare weights were obtained at scales NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☒ Chg 500

LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 4-23-91 B/L No. (Driver's Signature)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 0536

2. Page 1 of

3. Generator's Name and Mailing Address: Holloman AFB, NM
CES/CEV
Holloman AFB, NM

4. Generator's Phone: ( ) 505-475-4300

5. Transporter 1 Company Name: Rhino Environmental Services

6. US EPA ID Number: N/A

7. Transporter 2 Company Name:

8. US EPA ID Number:

9. Designated Facility Name and Site Address: Rhino Environmental Services
2 mile NW of Newman, Otero County, NM

10. US EPA ID Number: DP1051

A. Transporter's Phone:
B. Transporter's Phone:
C. Facility's Phone:

11. Waste Shipping Name and Description	12. Containers No	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Contaminated Soils	1		~~93,020~~ 40,290	
b.				
c.				
d.				

GENERATOR

D. Additional Descriptions for Materials Listed Above: NON-Hazardous Materials

E. Handling Codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information: CELL M

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste

Printed/Typed Name: WARREN NEFF | Signature: Warren Neff | Month 12 Day 23 Year 97

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Michael Williamson III | Signature: [illegible] | Month 12 Day 23 Year 97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: | Signature: | Month Day Year

FA

19. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19

20. Printed/Typed Name: Gary Donihoo | Signature: [illegible] | Month Day Year

12 BLS 65 Rev 4/94

GENERATOR'S COPY

№ 013204 STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER RHINO

Vehicle Identification 550/111

Name of Shipper

Origin of Shipment

Destination of Shipment

6430

lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed _____ Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC 19
AS AMENDED EFFECTIVE JUNE 1, 1970

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☒

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 4-24-97 B/L No. _____ (Driver's Signature)

№ 013199 STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER RHINO

Vehicle Identification 550/111

Name of Shipper

Origin of Shipment

Destination of Shipment

7,1020

lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed _____ Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC 19
AS AMENDED EFFECTIVE JUNE 1, 1970

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☒

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 4-23-97 B/L No. _____ (Driver's Signature)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No: 0590

2. Page 1 of

Truck ID: 5-0111

3. Generator's Name and Mailing Address: Holloman Air Force Base, 49 CES/CEV, Holloman AFB NM

Summa 123

4. Generator's Phone ( ) 505-[illegible]-5305

5. Transporter 1 Company Name: Rhino Environmental Services

6. US EPA ID Number

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address: Rhino Environmental Services, 2 mile NW of Newman, Otero County, NM

10. US EPA ID Number: DP1051

A. Transporter's Phone

B. Transporter's Phone

C. Facility's Phone

11. Waste Shipping Name and Description	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Contaminated Soils	1	BULK	4520	
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above: NON-Hazardous Materials

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: CELL M

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste

Printed/Typed Name: Michael A. Jacobs — Signature: [signature] — Month 4 Day 29 Year 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Michael A. Hassell — Signature: Michael Summa — Month 4 Day 29 Year 97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19

Printed/Typed Name — Signature — Month Day Year

GENERATOR 1 — TRANSPORTER — FACILITY

GENERATOR'S COPY

12-BES-105 Rev 4/94

№ 013220

STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER RHINO

Vehicle Identification 5501 11

Name of Shipper

Origin of Shipment

Destination of Shipment

77840

lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC - 15
AS AMENDED EFFECTIVE JUNE 1, 1970

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS

NAME OF SCALE OWNER (BEKINS M & S) / (BEKINS MOVING & STGE.)

LOCATION 2315 S. Valley Dr. Las Cruces, N. M. / US 70 W Alamogordo, N. M.

TARE

NAME OF SCALE OWNER (BEKINS M & S) / (BEKINS MOVING & STGE.)

LOCATION 2315 S. Valley Dr. Las Cruces, N. M. / US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster

DRIVER ON ☐ OFF ☒

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 4-29-97 B/L No.

(Driver's Sig.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 1

Trucking Number: 550111

3. Generator's Name and Mailing Address

Holloman Air Force Base
49 CES/CEV
Holloman AFB, NM

4. Generator's Phone ( ) 505-475-[illegible]

Manifest Date: 8/4/03

5. Transporter 1 Company Name: Rinco Environmental Services

6. US EPA ID Number: N/A

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address: Rinco Environmental Services, Inc. Landfill, Otero County, NM

10. US EPA ID Number: TF1051

A. Transporter's Phone: 505-[illegible]

B. Transporter's Phone: 505-[illegible]

C. Facility's Phone: 505-[illegible]

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Contaminated Soils	1	DEA	17890	
b. 2t				
c.				
d.				

GENERATOR

D. Additional Descriptions for Materials Listed Above: Non-Haz Materials

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: MICHAEL A. JACOBS

Signature: Michael A. Jacobs

Month Day Year: 8 4 03

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Michael Sevrano #550-111

Signature

Month Day Year: 8 4 03

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Signature

Month Day Year

GENERATOR'S COPY

M-D 13223

STATE CERTIFICATE OF WEIGHTS AND MEASURES

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER Rhino

Vehicle Identification No. 550-111

Name of Shipper

Origin of Shipment

Destination of Shipment

89210

lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed M. Patrucade
Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC - 19
AS AMENDED EFFECTIVE JUNE 1, 1976

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

DRIVER ON ☐ OFF ☒

Chg 500

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 4-29-97 B/L No.

(Driver's Signature)

RECEIVED MAY 0 6 1997

Published by J. J. KELLER & ASSOCIATES, INC., Neenah, WI 54957-0368 • 1-800-327-6868

Please print or type

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No
Manifest Document No: 0544
2. Page 1 of
Truck No 550111

3. Generator's Name and Mailing Address: Holloman Air Force Base, 49 CES/CEV, Holloman AFB, NM

SMWU 1.25

4. Generator's Phone ( ) 505-475-5395

5. Transporter 1 Company Name: Rhino Environmental Services
6. US EPA ID Number: N/A

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address: Rhino Environmental Services, 2 mile NW of Newman, Otero County, NM
10. US EPA ID Number: DP1051

A. Transporter's Phone
B. Transpo 505-242-6464
C. Facility's 505-644-0932

11. Waste Shipping Name and Description	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Contaminated Soils	1	BKR	33800	
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above: NON- Hazardous Materials

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: CELL M

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste

Printed/Typed Name: Michael A Jacobs
Signature: Michael A Jacobs
Month Day Year: 4 30 97

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Michael Sorcano #86-111
Signature: [illegible]
Month Day Year: 5 1 97

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name
Signature
Month Day Year

Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name
Signature

GENERATOR
TRANSPORTER
FACILITY

STATE CERTIFICATE OF WEIGHTS AND MEASURES

№ 013234

DRIVER'S WEIGHT CERTIFICATE

NAME OF CARRIER (BEKINS MOVING & STGE.) (BEKINS VAN LINES)

OTHER CARRIER RHINO

Vehicle Identification 550 / 111

Name of Shipper

Origin of Shipment

Destination of Shipment

#66120

lbs. Gross — Gross weight of loaded vehicle, with driver only, thereon.

lbs. Tare — Tare weight of vehicle, with driver only, thereon, including full gasoline tank and all necessary pads, chains, dollies, hand trucks, and other equipment.

lbs. Net — Net weight of the shipment.

Signed Owen X — Weighmaster

THIS FORM PRESCRIBED BY INTERSTATE COMMERCE COMMISSION
EX PARTE - MC - 19
AS AMENDED EFFECTIVE JUNE 1, 1970

The gross and tare weights were obtained at scales

NMDA APPROVED

GROSS	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.
TARE	NAME OF SCALE OWNER	(BEKINS M & S)	(BEKINS MOVING & STGE.)
	LOCATION	2315 S. Valley Dr. Las Cruces, N. M.	US 70 W Alamogordo, N. M.

As shown by attached weight ticket(s) prepared by the weighmaster.

(Attach only gross weight ticket if tare weight is obtained from a weight ticket on shipments listed below.)

DRIVER ON ☐ OFF ☑ 8 5.05

(LIST OF SHIPMENTS, IF ANY, ON VEHICLE AT TIME ABOVE WEIGHTS WERE OBTAINED)

SHIPPER	NET WEIGHT

I CERTIFY THE ABOVE ENTRIES ARE TRUE AND CORRECT.

DATE 5-01-97 B/L No. — Driver Signature

Appendix A-6

Portions of the *Results of Additional Soil Sampling for Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico*

Foster Wheeler Environmental Corporation, April 1999

22-G-2
JG

FOSTER WHEELER ENVIRONMENTAL CORPORATION

April 27, 1999
TERC-011.003-99X-006

Mr. George Fish
U.S. Army Corps of Engineers
Albuquerque District
P.O. Box Drawer A
Holloman AFB, NM 88330

Subject: TERC Contract No. DACW-45-94-D-0003, Delivery Order 11, WAD 3, Results of Additional Soil Sampling for Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico

Dear Mr. Fish:

Foster Wheeler Environmental Corporation is submitting two (2) copies of the following letter report that presents the results of additional soil sampling for remediation of the petroleum, oil, and lubricants (POL)-contaminated Solid Waste Management Unit (SWMU) 123, Holloman Air Force Base (AFB), New Mexico. Analytical results from soil samples collected during Phases I and II revealed concentrations of total recoverable petroleum hydrocarbons (TRPH) and benzene that were above the established Holloman AFB cleanup standards of 1,000 milligrams per kilogram (mg/kg) for TRPH and 25 mg/kg for benzene. The New Mexico Environment Department (NMED) requested further investigation of soil contamination underneath the concrete pad before considering a no further action (NFA) for the site. Therefore, an additional six soil borings were drilled and sampled through the washrack concrete pad. Results of these additional soil sampling events are detailed in Section 5 and Section 6. The site history, previous field activities and analytical results conducted during Phases I and II, summary of additional soil sampling and analytical results performed January 22, 1999 to February 12, 1999, and site recommendations are presented in this letter report.

143 UNION BOULEVARD, SUITE 1010, LAKEWOOD, CO 80228-1824
TEL: 303-988-2202 FAX: 303-980-3539

Figure 1-1 Site Location Map and Phase I and II Sampling Points

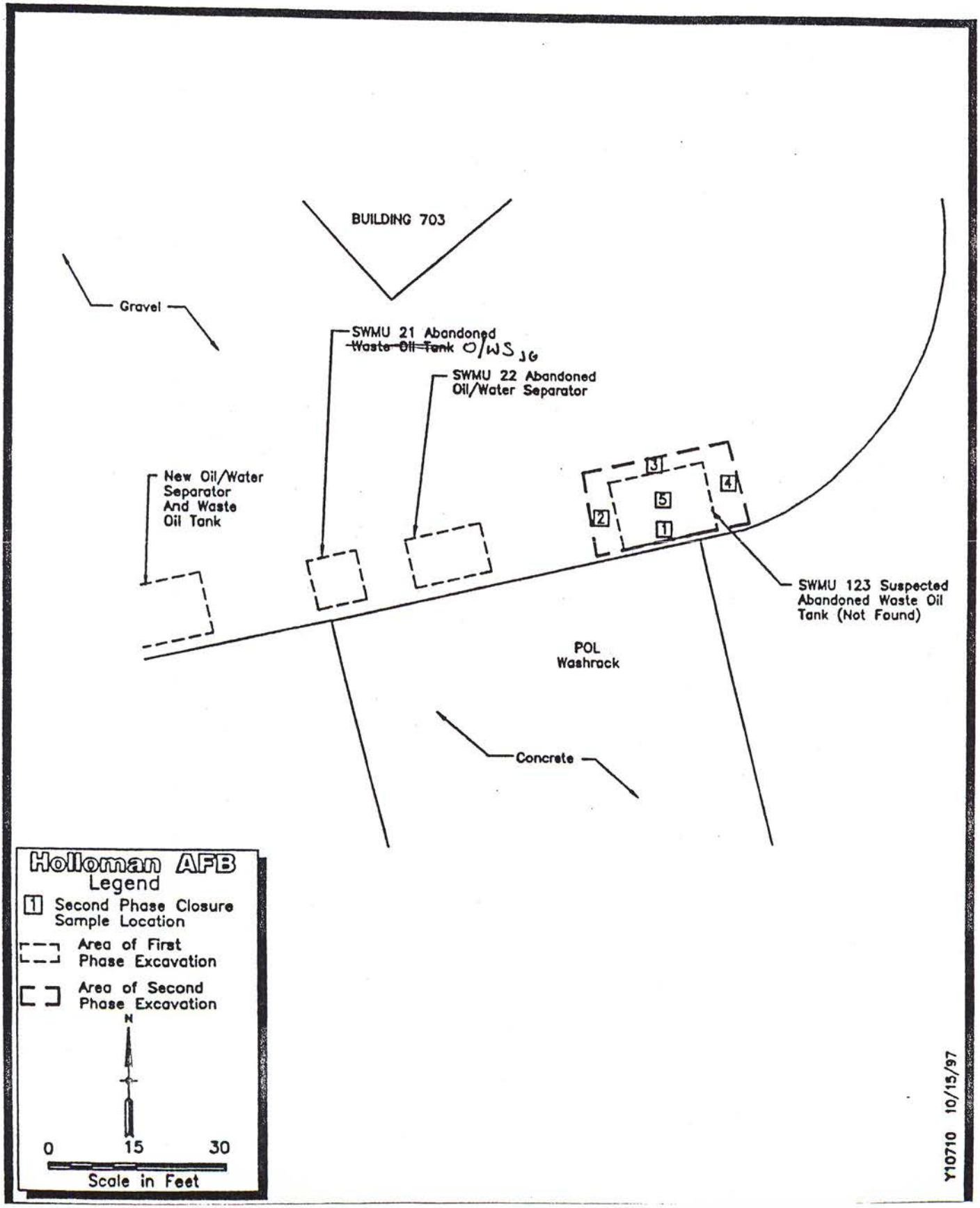
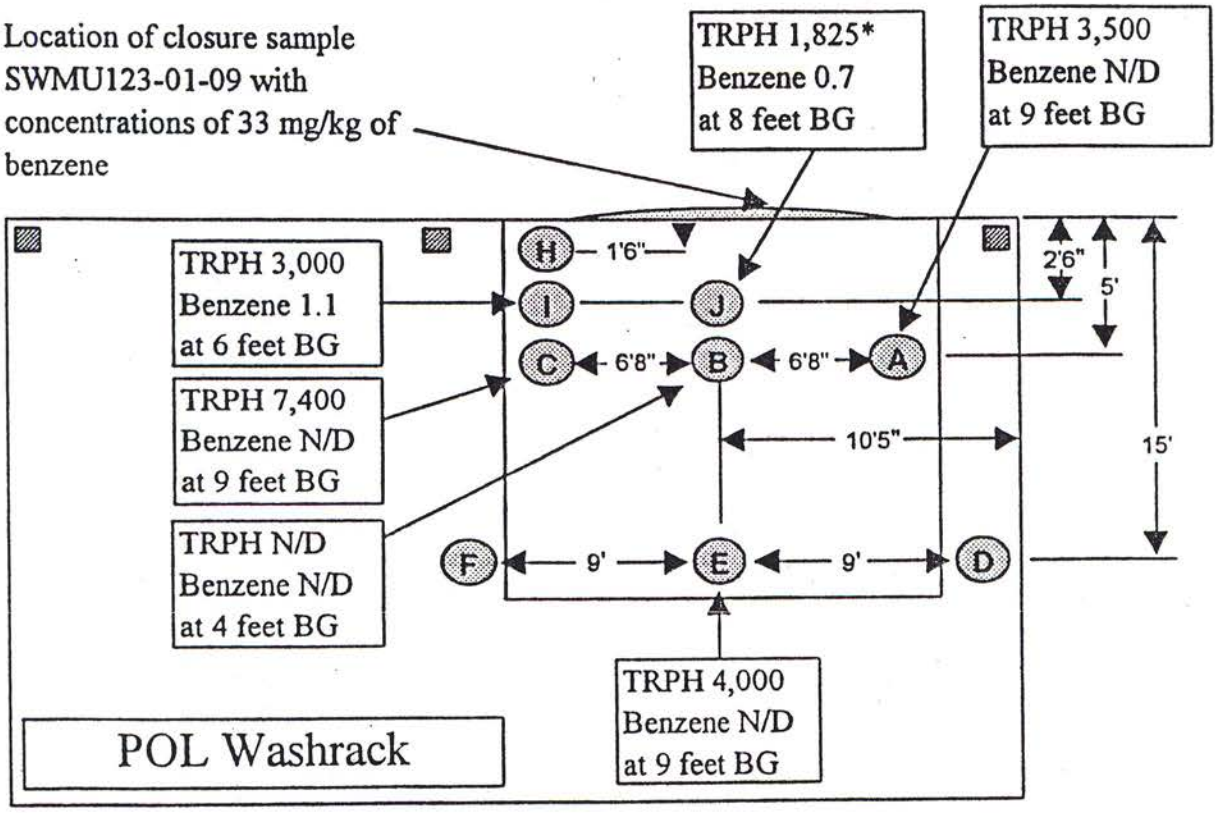


Figure 4-1 Concrete Pad Boring and Soil Sampling Locations



Notes:

Borings D, F, and H could not be bored through or sampled because they were located over footers in the concrete pad.

* Chemical concentrations are in milligrams per kilogram

BG = below ground

N/D = nondetect

mg/kg = milligrams per kilogram

TRPH = Total Recoverable Petroleum Hydrocarbons

Table 6-1 Soil Sample Analytical Results Summary

Sample Number	Date Sampled	TRPH (mg/kg)	Benzene (mg/kg)	Ethyl benzene (mg/kg)	Toluene (mg/kg)	Total Xylene (mg/kg)
SWMU123-SB-A-7	01/21/99	3,680	N/D	N/D	0.5	21
SWMU123-SB-A-9	01/27/99	3,500	N/D	61	21	110
SWMU123-SB-B-4	01/22/99	N/D	N/D	0.02	0.01	0.02
SWMU123-SB-C-2	01/22/99	144	0.02	0.9	0.3	1.2
SWMU123-SB-C-6	01/22/99	N/D	N/D	0.03	0.02	0.06
SWMU123-SB-C-9	01/27/99	7,400	N/D	110	190	270
SWMU123-SB-E-2	01/22/99	90	N/D	0.2	0.02	0.2
SWMU123-SB-E-6	01/22/99	N/D	N/D	N/D	N/D	1.6
SWMU123-SB-E-9	01/27/99	4,000	N/D	42	15	69
SWMU123-SB-I-2	02/11/99	304	0.5	9.6	7.9	9.9
SWMU123-SB-I-6	02/11/99	3,000	1.1	22	32	46
SWMU123-SB-J-2	02/12/99	48	0.04	0.3	0.7	0.5
SWMU123-SB-J-8	02/12/99	1,825	0.7	24	26	47

Notes:

N/D = nondetect
mg/kg = milligrams per kilogram
SWMU = Solid Waste Management Unit
TRPH = Total Recoverable Petroleum Hydrocarbons

Appendix A-7

Portions of the *Site Investigation Report SWMU 123, Holloman Air Force Base, New Mexico*

Bhate Environmental Associates, Inc., November 2004

SITE INVESTIGATION REPORT

SWMU 123

HOLLOMAN AIR FORCE BASE, NEW MEXICO

Prepared for:

49CES/CEV
Holloman Air Force Base
New Mexico

Under Contract To:

U.S. Army Corps of Engineers
Omaha, Nebraska
Under Contract No. DACA45-03-D-0008
Delivery Order No. 02, WAD 05

Prepared by:

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

Bhate Project No. 9030092.05

November 2004

TABLES

Table 5-1 Water Levels and Free Product Levels

SWMU 123 Site Monitoring Report Holloman AFB, New Mexico Bhate Project No. 9030092.05						
WELL ID:	Top Casing Elevation (ft amsl)	Depth to Groundwater (ft)	Groundwater Elevation (ft amsl)	Depth to Free Product (ft)	Measured Product Thickness (ft)	True Product Thickness[1] (ft)
MW-1	4092.17	10.73	4081.44	10.26	0.11	0.02
MW-2	4092.27	11.24	4081.03	NFP	0.00	0.00
MW-3	4091.98	10.70	4081.28	NFP	0.00	0.00
MW-4	4092.67	11.02	4081.65	NFP	0.00	0.00
MW-5	4091.95	10.88	4081.07	NFP	0.00	0.00
ft = feet; ft amsl = feet above mean sea level; NFP = no free product						

[1] True Product Thickness Calculation (after Pastrovich 1979)

$H_f = H_o(P_w - P_o)/P_o$

Where: H_f = thickness of hydrocarbon liquid in adjacent formation

H_o = hydrocarbon thickness measured in well (0.11 ft = 3.3528 cm

P_w = density of water 1.0 gm/cm3

P_o = density of hydrocarbon (0.84 gm/cm3, after Abdul et al. (1989) 0.84 gm/cm3

H_f = 0.638628571 cm

H_f = 0.0209524 ft

Table 5-2. Free Product Removal Summary

SWMU 123 Site Monitoring Report Holloman AFB, New Mexico Bhate Project No. 9030092.05			
Date	Bailing Duration	Free ProductThicknes	
		Before	After
9/22/2004	15 mins		0.36 ft
9/23/2004	15 mins	0.53 ft	0.08 ft
9/24/2004	15 mins	0.17 ft	0.09 ft
9/27/2004	15 mins	0.27 ft	0.14 ft
10/6/2004	-	0.11 ft	
ft = feet; mins = minutes			

Table 5-3 Total Dissolved Solids in Groundwater

SWMU 123 Site Monitoring Report Holloman AFB, New Mexico Bhate Project No. 9030092.05			
Location	**Groundwater Total Dissolved Solids Concentrations (mg/L)**	**Date Sampled**	**Method**
MW-1	3,010	7/16/04	160.1
MW-2	3,640	7/16/04	160.1
MW-3	3,230	7/16/04	160.1
MW-4	5,720	7/16/04	160.1
MW-5	6,050	7/16/04	160.1
Average	4,330		
mg/L = milligrams per liter; NMWQCC = New Mexico Water Quality Control Commission; MW = Monitoring Well; AFB = Air Force Base;			

Table 5-4 Groundwater Analytical Results

SWMU 123 RCRA Facility Investigation
Holloman AFB, New Mexico
Bhate Project No. 9030232

Chemical	Groundwater Screening Levels				Dilution	10x	10x	1x	10x	1x	1x	1x	1x	1x	1x	1x
					SDG No.	129202	129202	137431	129364	137431	129364	137431	129365	137431	129365	137431
	NMWQCC[1]	Basewide UTL[2]	EPA MCL[3]	Region 6[4]	Sample No.	MW-1	MW-1a	MW-1	MW-2	MW-2	MW-3	MW-3	MW-4	MW-4	MW-5	MW-5
					Date Sampled	5/11	5/11	9/29	5/12	9/29	5/12	9/29	5/13	9/29	5/13	9/29
					Date Rcvd.	5/12	5/12	9/30	5/14	9/30	5/14	9/30	5/14	9/30	5/14	9/30
Carbon Chain (µg/kg)																
C06 - C10 (DRO)	NA	NA	NA	NA		8.4	9.3	FREE PRODUCT	0.52	2.10	ND	0.26	ND	ND	ND	.10j
C10 - C22 (GRO)	NA	NA	NA	NA		26.0	25.0		1.50	0.55	ND	0.26	ND	ND	ND	ND
C22 - C32 (ORO)	NA	NA	NA	NA		ND	ND		ND	ND	ND	ND	ND	ND	ND	ND
Total (C10 - C32)	NA	NA	NA	NA		34.4	34.3		2.0	2.7	ND	0.5	ND	ND	ND	ND
VOCs (µg/l)																
1,2,4-Trimethylbenzene	NV	NA	NV	12		**429**	**481**		ND	45J	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene*	NV	NA	NV	12		**112**	**127**		ND	10J	ND	ND	ND	ND	ND	ND
Benzene	10	NA	5	0.35		**2,280**	**2,520**		**1,080**	**1,340**	ND	3.2	ND	ND	ND	ND
Ethylbenzene*	750	NA	700	1,300		**1,460**	**1,670**		337	416	ND	21	ND	ND	ND	ND
Isopropylbenzene*	NV	NA	NV	NV		122	139		17J	22J	ND	11	ND	ND	ND	ND
n-Propylbenzene*	NV	NA	NV	61		**153**	**174**		13J	21J	ND	1.5J	ND	ND	ND	ND
Naphthalene[1]	NV	NA	NV	6.2		**129**	**142**		ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene*	NV	NA	NV	NV		34J	38J		ND	14J	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	NV	NA	NV	61		29J	30J		ND	ND	ND	8.3	ND	ND	ND	ND
Toluene*	750	NA	1,000	720		**7,330**	**7,490**		ND	10J	ND	ND	ND	ND	ND	ND
Xylenes, total*	620	NA	10,000	200		**2,560**	**2,920**		136	125	ND	ND	ND	ND	ND	ND
SVOCs (µg/l)																
2,4-Dimethylphenol	NV	NA	NV	730		27	31		ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NV	NA	NV	NV		38	57		ND	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	NV	NA	NV	1,800		105	115		ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	NV	NA	NV	180		62	71		ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	NV	NA	NV	6.2		**55**	**76**		ND	ND	ND	ND	ND	ND	ND	ND
Phenol	5	NA	NV	11,000		**29**	**34**		ND	ND	ND	ND	ND	ND	ND	ND
Metals (mg/l)																
Antimony	NV	0.0896	0.006	0.015		ND	ND		ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	0.1	0.0723	0.01	0.045		0.014	0.020		0.070	0.068	0.061	0.020	0.068	0.017	0.078	0.027
Barium	1	0.0929	2	2.6		0.165	0.190		0.081	0.216	0.026	0.051	0.032	0.105	0.049	0.195
Beryllium	NV	0.0038	0.004	0.073		ND	ND		ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	0.01	0.0083	0.005	0.018		ND	ND		ND	ND	ND	ND	ND	ND	ND	ND
Chromium(Total)	0.05	0.2340	0.1	0.11		0.034	0.039		0.029	0.037	0.010	.007J	0.023	0.017	0.025	0.034
Cobolt	0.05	0.0200	NV	0.73		0.009	0.010		0.004	0.011	ND	ND	ND	.003J	ND	0.010
Copper	NV	0.0386	1.3	1.4		0.016	0.017		0.011	0.049	0.008	0.042	0.120	0.042	0.015	0.049
Lead	0.05	0.0199	0.015	0.015		0.021	0.025		ND	ND	ND	ND	ND	ND	ND	ND
Molybdenum	1.0	NV	NV	0.18		0.051	0.056		0.043	0.045	0.037	0.023	0.117	0.079	0.110	0.065
Nickel	0.2	0.0436	NV	0.73		.019J	0.023		0.015	0.025	0.003	.004J	0.004	.008J	0.006	0.021
Selenium	0.05	0.0793	0.05	0.18		ND	ND		**0.182**	ND	**0.161**	ND	**0.253**	ND	**0.261**	ND
Silver	0.05	0.0073	NV	0.18		0.016	0.004		ND	ND	0.004	ND	ND	ND	ND	ND
Thallium	NV	0.0943	0.002	0.003		ND	ND		ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	NV	0.4344	NV	0.037		**0.038**	0.035		**0.056**	**0.104**	ND	0.031	**0.075**	**0.116**	**0.151**	**0.213**
Zinc	10	0.2534	NV	11		0.116	0.182		0.085	0.056	0.030	ND	0.038	0.026	0.163	0.095
Mercury (Total)	0.002	0.00003	0.002	0.011		ND	ND		ND	ND	ND	ND	ND	ND	ND	ND

BOLD = Exceeds a screening action level; J denotes value between MDL and Detection Limit for Reporting (DLR); EPA = Environmental Protection Agency; NMWQCC = New Mexico Water Quality Commission; SDG = Sample Delivery Group; µg/L = micrograms per liter; VOCs = Volatile Organic Compounds; SVOCs = Semi Volatile Organic Compounds; MW = Monitoring Well; AFB = Air Force Base; NA = Not Applicable; NV = No Value

Exceeds NMWQCC Standard
Exceeds EPA MCL or Region 6 Action Level
Exceeds EPA MCL or Region 6 Action Level but is below UTL

J denotes value between MDL and Detection Limit for Reporting (DLR).

* Saturated concentration was used when calculating HAFB site specific SSL values.

[1] Denotes New Mexico Water Quality Control Human Health Standard(NMAC 20.6.2.310, Subsections A and B)

[2] Radian 1993 Basewide Background Study, Table 2-3 Summary Statistics for Total Metals in Groundwater, Upper Tolerance Limit (UTL)

[3] US Environmental Protection Agency Maximum Concentration Limit

[4] US EPA Region 6 Human Health Media-Specific Screening Levels(EPA, October 30, 1996)

Table 5-5. Soil Boring Analytical Results

SWMU 123 Site Monitoring Report
Holloman AFB, New Mexico
Bhate Project No. 9030092.05

Chemical	Soil Screening Levels		Dilution	1x	1000x	100x	1000x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
			SDG No.	127927	128239	127927	128239	127979	128239	127979	128239	127979	128239	127979	128239	127979	128239	127979	128044	127979	128044	127927	128044	127927	128044
			Sample No.	SB01-10	SB01-10	SB01-12	SB01-12	SB02-7	SB02-7	SB-02-7a	SB-02-7a	SB02-11	SB02-11	SB03-10	SB03-10	SB03-11	SB03-11	SB04-6	SB04-6	SB04-11	SB04-11	SB05-10	SB05-10	SB05-11	SB05-11
	NMED[1] Residential (mg/kg)	Basewide UTL[2]	Date Sampled	4/15	4/20	4/15	4/20	4/16	4/20	4/16	4/20	4/16	4/20	4/16	4/20	4/16	4/20	4/16	4/19	4/16	4/19	4/15	4/19	4/15	4/19
			Date Rcvd	4/17	4/23	4/17	4/23	4/20	4/23	4/20	4/23	4/20	4/23	4/20	4/23	4/20	4/23	4/20	4/21	4/20	4/21	4/17	4/21	4/17	4/21
TPH (Carbon Chain)				**TPH in mg/kg**																					
C06 - C10 (DRO)		NV		800	ANR	1,330	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR
C10 - C22 (GRO)		NV		2,270	ANR	2,610	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR
C22 - C32 (ORO)		NV		ND	ANR	ND	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Total TPH (C10 - C32)	940	NV		**3,070**		**3,940**																			
VOCs				**VOCs in mg/kg**																					
1,2,4-Trimethylbenzene	52.2	NV		39.2	**53.7**	16.3	44.9	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene*	22.3	NV		13.4	19.4	5.62	15.8	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND
Benzene	27	NV		ND	26.9	3.09	22.5	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND
Ethylbenzene*	10,600	NV		52.7	98.1	23.6	76.6	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	3.4J	ND	2.3J	ND
Isopropylbenzene*	700	NV		10.3	15.30	3.98	12.1	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND
n-Propylbenzene*	53.2	NV		15.6	2.37	6.21	19.5	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND
Naphthalene[1*]	71.9	NV		5.67	9.89	2.38	8.53	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND
p-Isopropyltoluene*	NV	NV		3.94	8.24	2.65	6.95	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND
sec-Butylbenzene	NV	NV		5.28	ND	2.65	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND
Toluene*	248	NV		5.28	195	36.7	158	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	4.9J	ND	3.0J	ND
Xylenes, total*	132	NV		95.2	**170**	41.4	138	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	4.9J	ND	2.4J	ND
SVOCs				**SVOCs in mg/kg**																					
2-Methylnaphthalene	NV	NV		8.34	ND	14.7	ND	ND	ND	ANR	ND	ND	ND	ND	ND	ND	ND	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Naphthalene	71.9	NV		3.41	ND	5.85	ND	ND	ND	ANR	ND	ND	ND	ND	ND	ND	ND	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Metals				**Metals in mg/kg**																					
Antimony	31.3	7.2844		ND	ANR	ND	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ND	ANR	ND	ANR
Arsenic	3.9	6.8833		0.27	ANR	0.56	ANR	3.4	ANR	3.0	ANR	2.13	ANR	2.62	ANR	2.06	ANR	2.11	ANR	1.79	ANR	1.58	ANR	1.19	ANR
Barium	5,450	84.3632		18.6	ANR	22.9	ANR	24.1	ANR	44.7	ANR	26.7	ANR	56.4	ANR	19.1	ANR	28.3	ANR	17.5	ANR	60.8	ANR	28.7	ANR
Beryllium	156	0.4000		ND	ANR	ND	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	0.2	ANR	ND	ANR
Cadmium	74.1	1.0359		0.27	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Chromium(Total)	234	6.6049		1.59	ANR	2	ANR	7.04	ANR	7.24	ANR	2.64	ANR	2.19	ANR	1.83	ANR	3.32	ANR	2.0	ANR	5.40	ANR	3.45	ANR
Cobalt	1,520	2.4852		0.64	ANR	0.77	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	2.49	ANR	1.09	ANR
Copper	3,130	4.8438		0.83	ANR	0.97	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	2.69	ANR	1.44	ANR
Lead	400	-2.3221		ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Molybdenum	391	5.4258		ND	ANR	ND	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ND	ANR	ND	ANR
Nickel	1,560	5.6125		1.48	ANR	1.78	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	4.22	ANR	2.54	ANR
Selenium	391	10.5310		4.06	ANR	2.7	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	3.12	ANR	1.71	ANR
Silver	391	0.7342		ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Thallium	5.16	11.3153		0.12	ANR	0.11	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	0.14	ANR	0.15	ANR
Vanadium	548	15.4597		2.49	ANR	2.49	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	14.5	ANR	8.47	ANR
Zinc	23,500	20.2464		3.79	ANR	5	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	14.0	ANR	8.62	ANR
Mercury (Total)	100,000	-0.0006		ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ANR

RCRA 8 metals

Exceeds NMED Soil Screening Level

BOLD = Exceeds a screening action level; SDG = Sample Delivery Groupmg/kg = milligrams per kilogram; VOCs = Volatile Organic Compounds; SVOCs = Semi Volatile Organic Compounds; SB = Soil Boring; AFB = Air Force Base; ANR = Analysis Not Requested; NV = No Value; ND = Not Detected; mg/kg = milligrams per kilogram.

NOTE: SDG 128044 was collected to replace samples. All samples in this SDG replace those from earlier SDGs. Samples: SB4-6, SB4-11, SB5-10 and SB5-11

NOTE: SDG 128239 was collected to replace samples. All samples in this SDG replace those from earlier SDGs. Samples: SB-1-10, SB1-12, SB2-7, SB2-7a, SB2-11, SB3-10, and SB3-11

J denotes value between MDL and Detection Limit for Reporting (DLR).

* Saturated concentration was used when calculating HAFB site specific SSL values.

[1] Denotes February 2004 NMED SSL values.

[2] Radian 1993 Basewide Background Study, Table 2-1 Summary Statistics for Soil, Upper Tolerance Limit (UTL)

Table 5-6. DPT Soil Analytical Results

SWMU 123 Site Monitoring Report
Holloman AFB, New Mexico
Bhate Project No. 9030092.05

Chemical	Soil Screening Levels		Dilution	1x	1x	1x	1x	1x	1x	1x	10x	100x	10x	1x	1000x	1x	1000x	1x	1000x	1x	1000x
			SDG No.	127927	128044	128253	127927	128044	128253	128044	127927	128044	127927	127979	128239	127979	128239	127979	128239	127979	128239
			Sample No.	DP01-4	DP01-4	DP01-4	DP01-11	DP01-11	DP01-11	DP02-9	DP02-9	DP02-10	DP02-10	DP03-10	DP03-10	DP03-11	DP03-11	DP04-10	DP04-10	DP04-11	DP04-11
	NMED[1] Residential (mg/kg)	Basewide UTL[2]	Date Sampled	4/15	4/19	4/23	4/15	4/19	4/19	4/19	4/15	4/19	4/15	4/16	4/20	4/16	4/20	4/16	4/20	4/16	4/20
			Date Rcvd.	4/17	4/21	4/24	4/17	4/21	4/24	4/21	4/17	4/21	4/17	4/20	4/23	4/20	4/23	4/20	4/23	4/20	4/23
TPH (Carbon Chain)																**TPH in mg/kg**					
C06 - C10 (DRO)	NV	NV		ND	ANR	ANR	ND	ANR	ANR	ANR	12	ANR	61	238	ANR	114	ANR	535	ANR	1,050	ANR
C10 - C22 (GRO)	NV	NV		ND	ANR	ANR	ND	ANR	ANR	ANR	8.9	ANR	71	150	ANR	162	ANR	481	ANR	1,270	ANR
C22 - C32 (ORO)	NV	NV		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Total (C6 - C32)	940	NV									20.9		132	388		276		1,016		2,320	
VOCs																**VOCs in mg/kg**					
1,2,4-Trimethylbenzene	52.2	NV		ND	ND	ANR	ND	ND	ND	ND	0.174	ND	4.35	ANR	13.5	ANR	9.87	ANR	21.8	ANR	17.1
1,3,5-Trimethylbenzene*	22.3	NV		ND	ND	ANR	ND	ND	ND	ND	0.054	ND	1.31	ANR	5.03	ANR	3.81J	ANR	7.68	ANR	5.87
Benzene	27	NV		ND	ND	ANR	ND	ND	ND	ND	ND	ND	ND	ANR	2.36J	ANR	2.14J	ANR	ND	ANR	ND
Ethylbenzene*	10,600	NV		.0017J	ND	ANR	.0012J	ND	ND	ND	0.249	3.25	3.63	ANR	17.2	ANR	13.2	ANR	42	ANR	31.7
Isopropylbenzene*	700	NV		ND	ND	ANR	ND	ND	ND	ND	0.132	1.46	0.767	ANR	2.59	ANR	1.96J	ANR	7.17	ANR	5.45
n-Propylbenzene*	53.2	NV		ND	ND	ANR	ND	ND	ND	ND	0.229	2.16	1.29	ANR	4.73	ANR	3.43J	ANR	11.1	ANR	8.39
Naphthalene[1]	71.9	NV		ND	ND	ANR	ND	ND	ND	ND	0.093	ND	0.764	ANR	ND	ANR	ND	ANR	4.86J	ANR	4.29J
p-Isopropyltoluene*	NV	NV		ND	ND	ANR	ND	ND	ND	ND	.027J	ND	0.397	ANR	1.2J	ANR	.896J	ANR	3.29J	ANR	2.54J
sec-Butylbenzene	NV	NV		ND	ND	ANR	ND	ND	ND	ND	0.13	ND	0.305	ANR	ND	ANR	ND	ANR	ND	ANR	ND
Toluene*	248	NV		.0021J	ND	ANR	.0021J	ND	ND	ND	ND	ND	.017J	ANR	17.8	ANR	14.3	ANR	4.32J	ANR	3.05J
Xylenes, total*	132	NV		.0017J	ND	ANR	.0012J	ND	ND	ND	0.133	ND	3.52	ANR	29.3	ANR	21.2	ANR	56	ANR	41.5
SVOCs																**SVOCs in mg/kg**					
Diethylphthalate	48,000	NV		ND	ANR	ANR	ND	ANR	ANR	ANR	1.42	ANR	ND	ND	ANR	ND	ANR	ND	ANR	ND	ANR
2-Methylnaphthalene	NV	NV		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	1.13	ANR	0.493	ANR	3.40	ANR	4.59	ANR
Naphthalene	71.9	NV		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	0.627	ANR	.279J	ANR	1.21	ANR	2.21	ANR
Metals																**Metals in mg/kg**					
Antimony	31.3	7.2844		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Arsenic	3.9	6.8833		1.45	ANR	ANR	0.25	ANR	ANR	ANR	0.71	ANR	0.18	1.57	ANR	1.59	ANR	1.69	ANR	1.31	ANR
Barium	5,450	84.3632		43.5	ANR	ANR	25	ANR	ANR	ANR	15.1	ANR	15.1	30.00	ANR	32.90	ANR	16.00	ANR	21.7	ANR
Beryllium	156	0.4000		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Cadmium	74.1	1.0359		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Chromium(Total)	234	6.6049		6.75	ANR	ANR	3.05	ANR	ANR	ANR	1.84	ANR	1.61	2.33	ANR	2.57	ANR	1.34	ANR	2.87	ANR
Cobolt	1,520	2.4852		2.7	ANR	ANR	1.04	ANR	ANR	ANR	0.85	ANR	0.64	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Copper	3,130	4.8438		3.13	ANR	ANR	1.4	ANR	ANR	ANR	1.04	ANR	0.53	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Lead	400	-2.3221		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Molybdenum	391	5.4258		0.59	ANR	ANR	ND	ANR	ANR	ANR	0.55	ANR	ND	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Nickel	1,560	5.6125		4.85	ANR	ANR	2.17	ANR	ANR	ANR	1.77	ANR	1.34	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Selenium	391	10.5310		2.65	ANR	ANR	3.96	ANR	ANR	ANR	3.72	ANR	3.32	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Silver	391	0.7342		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ND	ANR	ND	ANR	ND	ANR	ND	ANR
Thallium	5.16	11.3153		0.36	ANR	ANR	0.18	ANR	ANR	ANR	0.13	ANR	0.12	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Vanadium	548	15.4597		11.9	ANR	ANR	5.16	ANR	ANR	ANR	5.87	ANR	4.25	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Zinc	23,500	20.2464		19.1	ANR	ANR	7.81	ANR	ANR	ANR	3.92	ANR	3.59	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Mercury (Total)	100,000	-0.0006		ND	ANR	ANR	ND	ANR	ANR	ANR	ND	ANR	ND	ND	ANR	ND	ANR	ND	ANR	ND	ANR
PCBs (in mg/kg)																					
1016						ND			ND												
1221						ND			ND												
1232						ND			ND												
1242						ND			ND												
1248						ND			ND												
1254						ND			ND												
1260						ND			ND												

Chemical	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x	1x
SDG No.	128108	128239	128108	128239	128108	128239	128108	128239	128045	128045	128045	128045	128108	128239	128108	128239
Sample No.	DP05-9-1345	DP05-9	DP05-10-1345	DP05-10	DP06-7-1325	DP06-7	DP06-10-1325	DP06-10	DP07-9	DP07-10	DP08-8	DP08-9	DP09-7-1627	DP09-7	DP09-9-1627	DP09-9
Date Sampled	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20	4/20
Date Rcvd.	4/22	4/23	4/22	4/23	4/22	4/23	4/22	4/23	4/21	4/21	4/21	4/21	4/22	4/23	4/22	4/23
TPH (Carbon Chain)																
C06 - C10 (DRO)	ND	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	9.50	ND	NA	ND	NA
C10 - C22 (GRO)	7.7	ANR	ND	ANR	ND	NA	7.4	NA	ND	ND	ND	11.00	ND	NA	ND	NA
C22 - C32 (ORO)	24.0	ANR	ND	ANR	ND	NA	44.0	NA	ND	ND	ND	ND	ND	NA	ND	NA
Total (C6 - C32)	31.7						51.4		ND	ND	ND	20.50				
VOCs																
1,2,4-Trimethylbenzene	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
1,3,5-Trimethylbenzene*	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
Benzene	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
Ethylbenzene*	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
Isopropylbenzene*	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
n-Propylbenzene*	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
Naphthalene[1]	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
p-Isopropyltoluene*	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
sec-Butylbenzene	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
Toluene*	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
Xylenes, total*	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA	ND
SVOCs																
Diethylphthalate	ND	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA
2-Methylnaphthalene	ND	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA
Naphthalene	ND	ANR	ND	ANR	ND	NA	ND	NA	ND	ND	ND	ND	ND	NA	ND	NA
Metals																
Antimony	ANR	ANR	ANR	ANR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	3.67	ANR	3.47	ANR	**4.81**	NA	**4.95**	NA	2.24	2.34	2.45	1.88	**4.72**	NA	**4.27**	NA
Barium	58.1	ANR	39.6	ANR	66.7	ANR	77.1	ANR	43.5	17.6	23.4	20.7	37.1	ANR	41.6	ANR
Beryllium	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Cadmium	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	ND	ND	ND	ANR	ND	ANR
Chromium(Total)	6.25	ANR	2.21	ANR	8.34	ANR	8.19	ANR	3.34	1.14	2.24	2.23	5.39	ANR	7.65	ANR
Cobolt	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ND	ND	ANR	ANR	ANR	ANR
Copper	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Lead	1.12	ANR	ND	ANR	2.41	ANR	2.51	ANR	ND	ND	ND	ND	0.54	ANR	1.77	ANR
Molybdenum	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Nickel	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Selenium	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	0.631	ND	ND	ND	ANR	ND	ANR
Silver	ND	ANR	ND	ANR	ND	ANR	ND	ANR	ND	ND	0.74	0.203	ND	ANR	ND	ANR
Thallium	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Vanadium	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Zinc	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR	ANR
Mercury (Total)	ND	ANR	ND	ANR	ND	ANR	0.22	ANR	ND	ND	ND	ND	ND	ANR	ND	ANR

RCRA 8 metals

Exceeds NMED Soil Screening Level

BOLD = Exceeds a screening action level; SDG = Sample Delivery Group; mg/kg = milligrams per kilogram; VOCs = Volatile Organic Compounds; SVOCs = Semi Volatile Organic Compounds; SB = Soil Boring; AFB = Air Force Base; ANR = Analysis Not Requested; NV = No Value; ND = Not Detected; mg/kg = milligrams per kilogram.

NOTE: SDG 128044 was collected to replace samples. All samples in this SDG replace those from earlier SDGs. Samples: DP1-4, DP1-11, DP2-9, and DP2-10

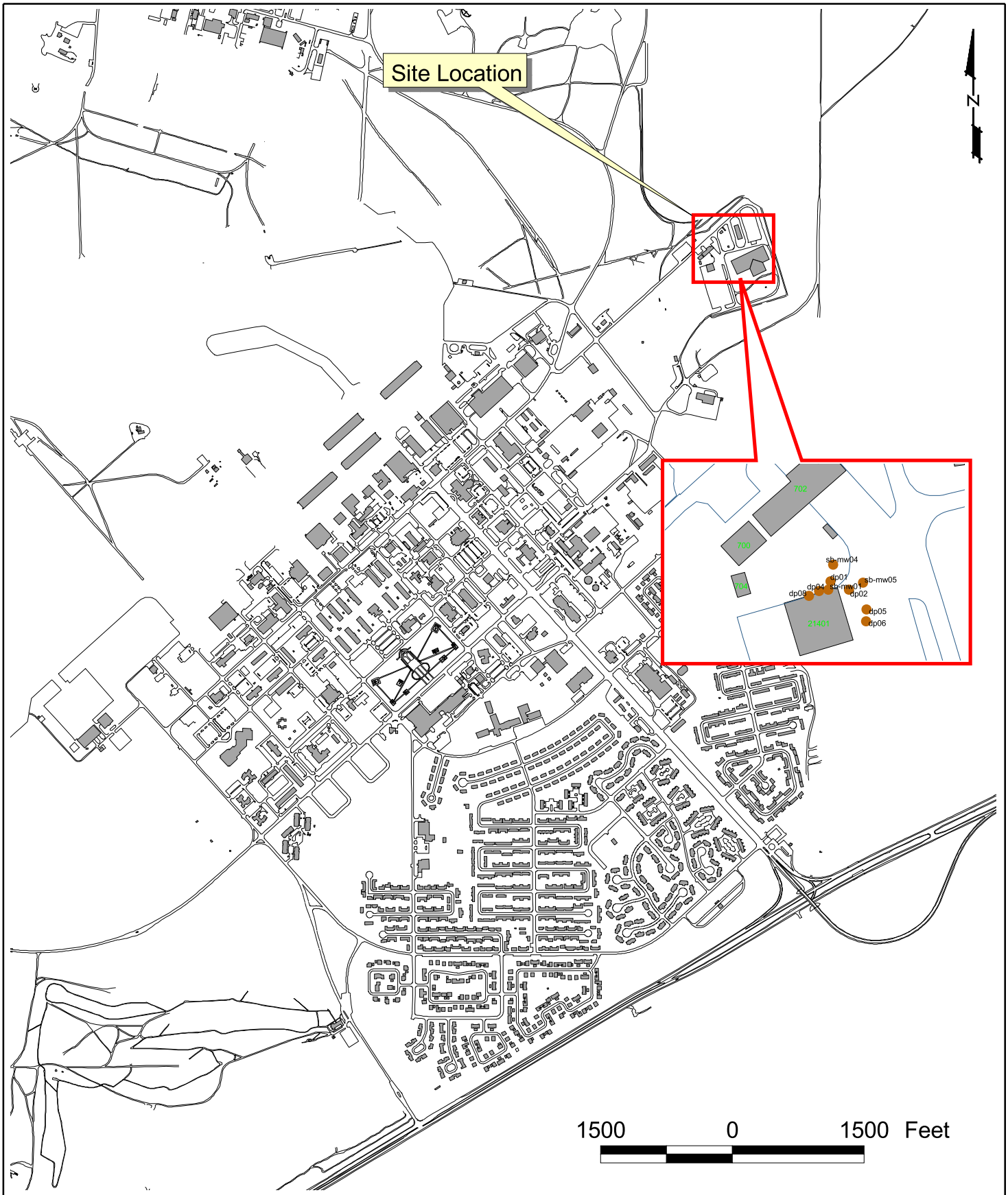
NOTE: SDG 128239 was collected to replace samples. All samples in this SDG replace those from earlier SDGs. Samples: DP3-10, DP3-11, DP4-10, DP4-11, DP5-9, DP5-10, DP6-7, DP6-10, DP9-7, and DP9-9

J denotes value between MDL and Detection Limit for Reporting (DLR).

* Saturated concentration was used when calculating HAFB site specific SSL values.

[1] Denotes February 2004 NMED SSL values.

FIGURES



BHATE
Environmental Engineers and Scientists

Site Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
9040024	1"=1500'	10/22/04	cm
			DRAWING NO: gis 1

SWMU 123
Holloman Air Force, New Mexico

Figure 2-1

BHATE
Environmental Engineers and Scientists

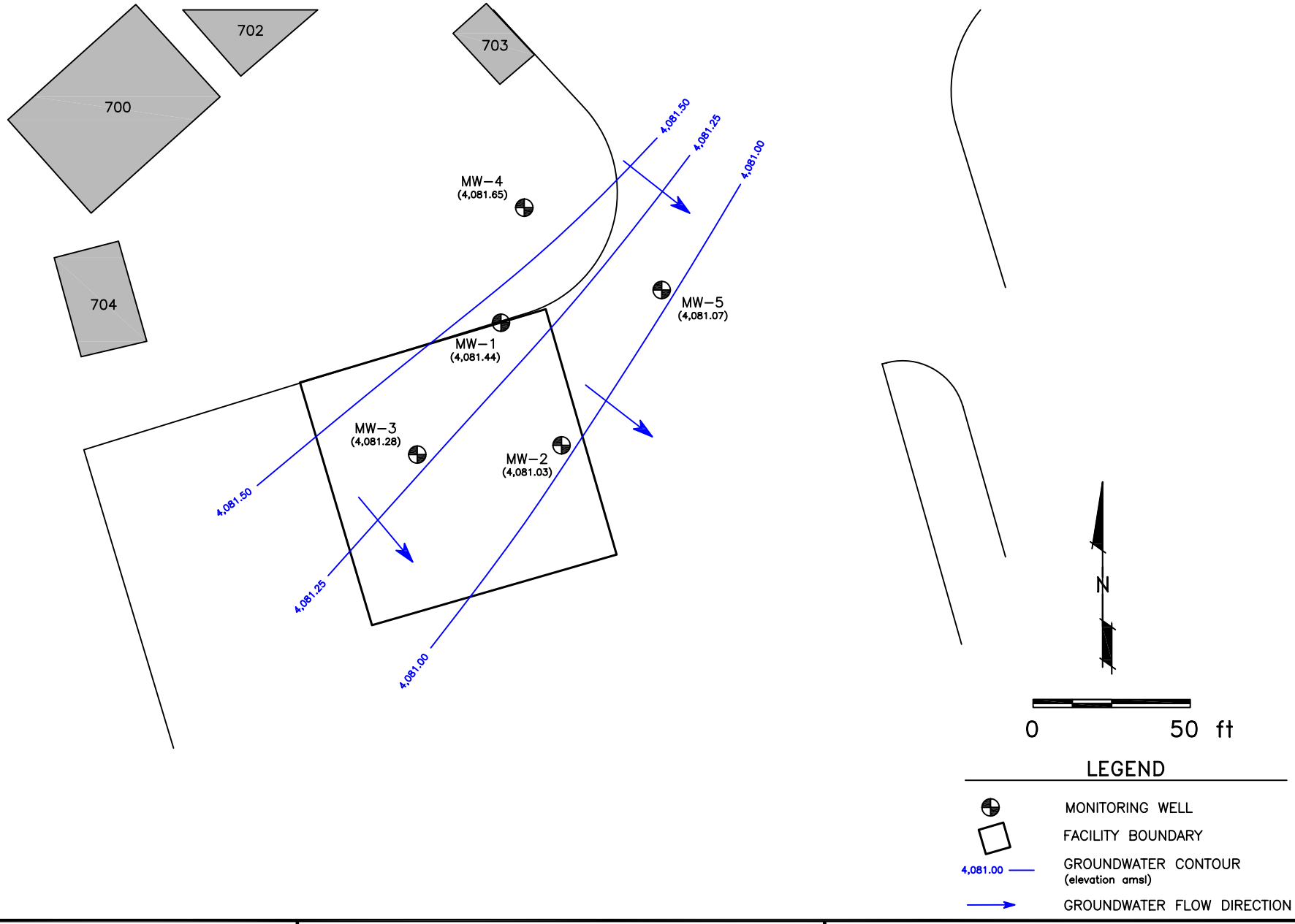
SWMU 123 SAMPLING LOCATIONS

PROJECT NO.	SCALE	DATE	DRAWN BY: MRM
9030092	SHOWN	10/22/04	DRAWING NO: 9030092-02

HOLLOMAN AIR FORCE BASE
SWMU 123

HOLLOMAN, NEW MEXICO

Figure 4-1

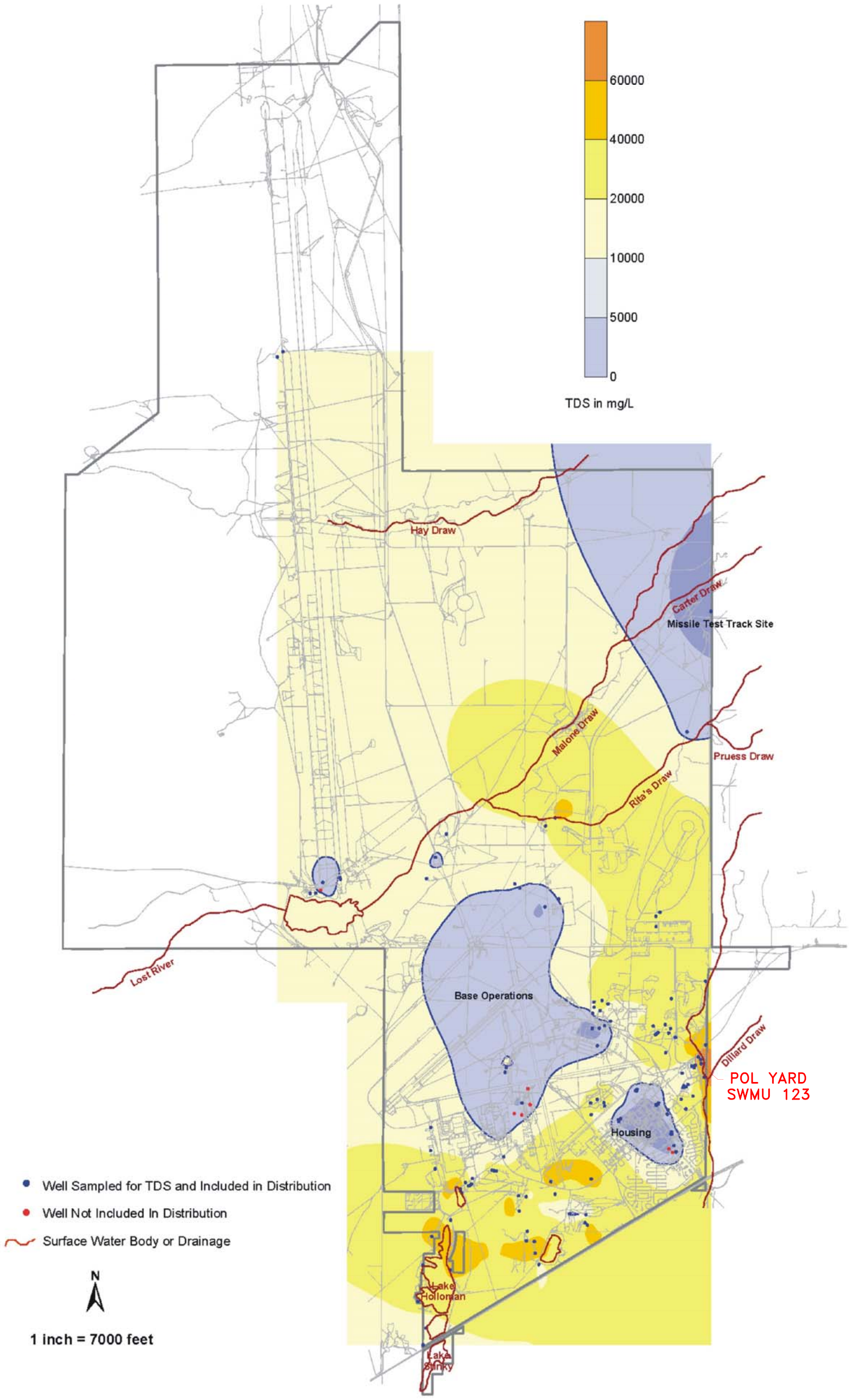


BHATE
Environmental Engineers and Scientists

GROUNDWATER POTENTIOMETRIC SURFACE

PROJECT NO.	SCALE	DATE	DRAWN BY: MRM
9030092	SHOWN	10/17/04	DRAWING NO: 9030092-07

HOLLOMAN AIR FORCE BASE
SWMU 123
HOLLOMAN, NEW MEXICO
Figure 5-1



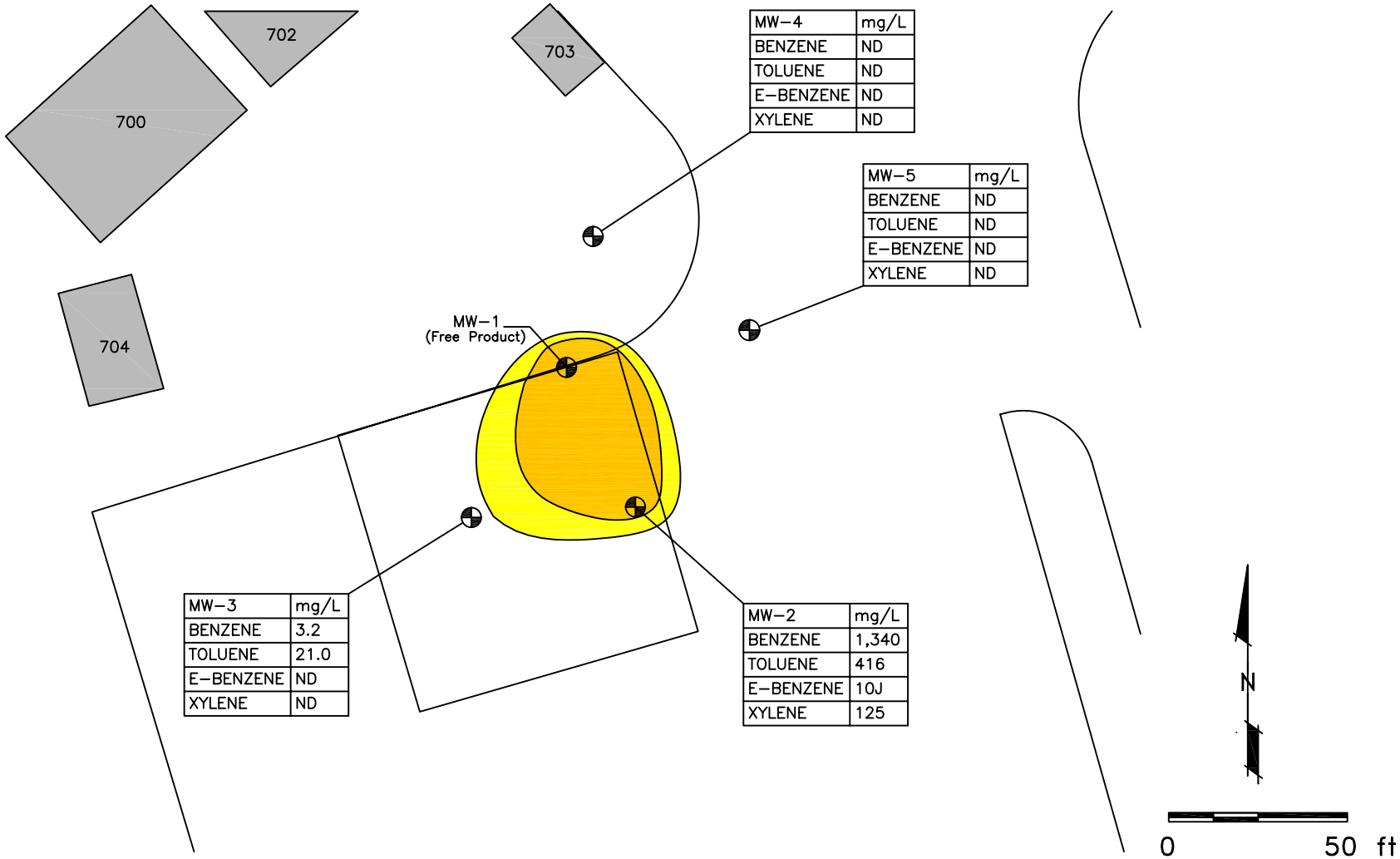
BHATE
Environmental Engineers and Scientists

TOTAL DISSOLVED SOLIDS

PROJECT NO.	SCALE	DATE	DRAWN BY:
9030092	AS SHOWN	10/22/04	MRM
			DRAWING NO: 9030092-08

HOLLOMAN AIR FORCE BASE
SWMU 123
HOLLOMAN, NEW MEXICO

Figure 5-2



MW-4	mg/L
BENZENE	ND
TOLUENE	ND
E-BENZENE	ND
XYLENE	ND

MW-5	mg/L
BENZENE	ND
TOLUENE	ND
E-BENZENE	ND
XYLENE	ND

MW-3	mg/L
BENZENE	3.2
TOLUENE	21.0
E-BENZENE	ND
XYLENE	ND

MW-2	mg/L
BENZENE	1,340
TOLUENE	416
E-BENZENE	10J
XYLENE	125

LEGEND

- DPT LOCATION (concentration)
- SOIL BORING/MONITORING WELL (concentration)
- BENZENE > 5mg/L
- BENZENE > 1000mg/L

BHATE
Environmental Engineers and Scientists

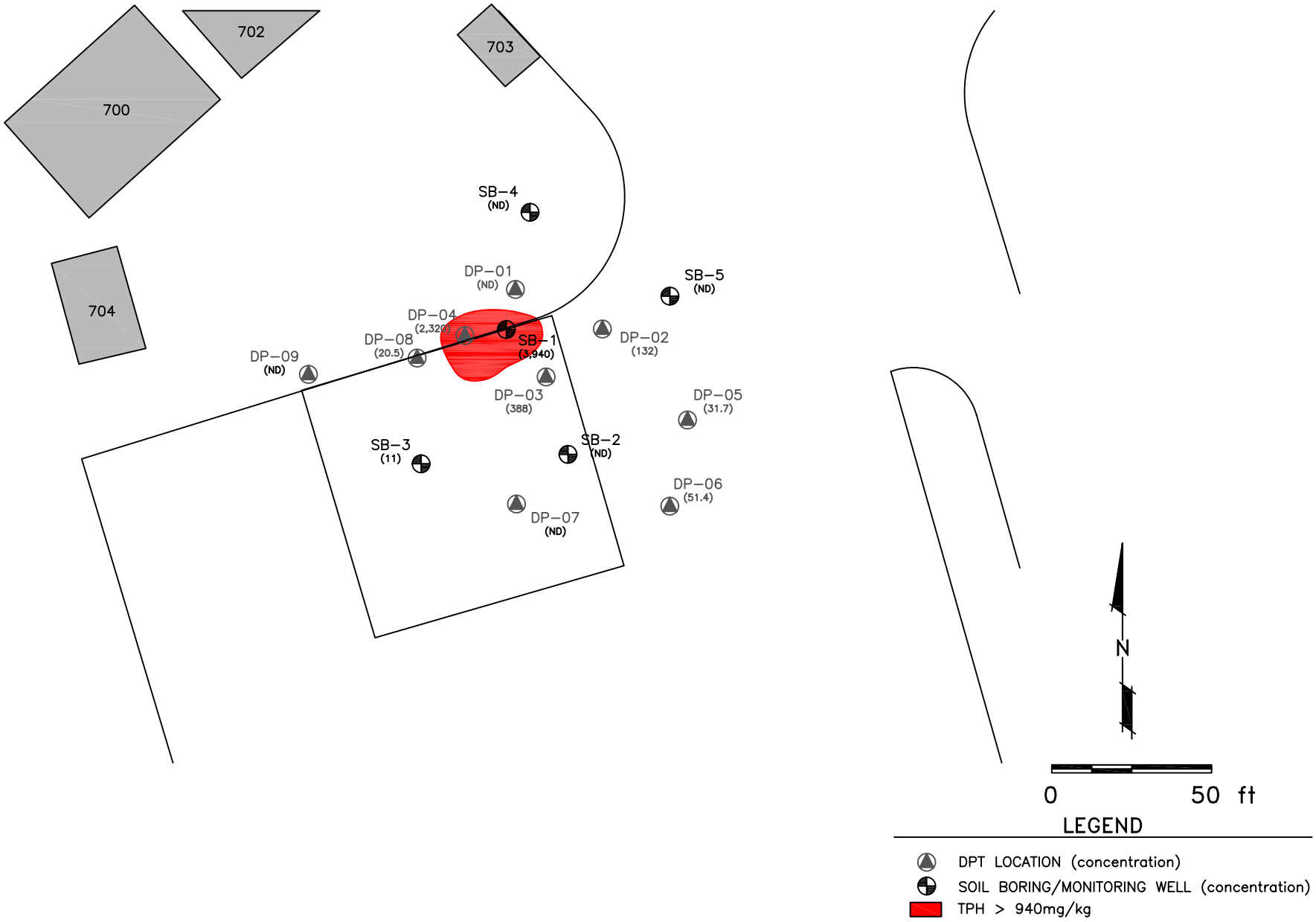
GROUNDWATER HYDROCARBON CONTAMINATION
BENZENE CONCENTRATIONS

PROJECT NO.	SCALE	DATE	DRAWN BY: MRM
9030092	SHOWN	10/22/04	DRAWING NO: 9030092-04

HOLLOMAN AIR FORCE BASE
SWMU 123

HOLLOMAN, NEW MEXICO

Figure 5-3



BHATE
Environmental Engineers and Scientists

SOIL HYDROCARBON CONTAMINATION
TPH CONCENTRATIONS

PROJECT NO.	SCALE	DATE	DRAWN BY: MRM
9030092	SHOWN	10/22/04	DRAWING NO: 9030092-05

HOLLOMAN AIR FORCE BASE
SWMU 123
HOLLOMAN, NEW MEXICO

Figure 5-4

APPENDIX A

HTW SOIL BORING LOGS

AND

WELL CONSTRUCTION DIAGRAMS

HTW DRILLING LOG

HOLE NO: SWMU123-DP06

1. COMPANY NAME: BHATE	2. DRILLING CONTRACTOR: BHATE
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMU123	4. LOCATION: HOLLOMAN AFB, NM POL YARD
5. NAME OF DRILLER: MARK MUMBY	6. MANUFACTURER'S DESIGNATION OF DRILL: GEOPROBE 66DT
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Direct Push Technology; 48 INCH MACROCORE SAMPLER	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 16-Apr-2004 / 11. DATE COMPLETED: 16-Apr-2004
12. OVERBURDEN THICKNESS: 12.0 ft	15. DEPTH GROUNDWATER ENCOUNTERED: 11.0 ft
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: NA
14. TOTAL DEPTH OF HOLE: 12.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
Yes	8260B	6010B	8270C	8015B	9045B/C	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	0.0-0.6, Silty sand (SM), dark brown (7.5 YR 3/3), fine grained, dry		NA		NA	
		0.6-6.4, Silty sand (SM), reddish yellow (7.5 YR 6/6), fine grained, dry to moist					
	1		PID/PPM FID/PPM No results due to no recovery				
	2		PID/PPM 190 FID/PPM 0.01				
	3		PID/PPM 358 FID/PPM 0.03				
	4		PID/PPM 316 FID/PPM 0.0				
	5						

HTW DRILLING LOG

HOLE NO SWMU123-DP06

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5		PID/PPM 347 FID/PPM 0.0				
	6	5.9-9.9, Poorly graded sand (SP), red (2.5 YR 4/6), gypsum crystals at top, moist	PID/PPM 1186 FID/PPM 0.0				
	7		PID/PPM 478 FID/PPM 0.04		SWMU123 -DP06-7		
	8		PID/PPM 390 FID/PPM 0.0				
	9		PID/PPM 172 FID/PPM 0.0				
	10	9.9-12.0, Clayey sand (SC), red (2.5YR 4/6), very fine grained, wet to moist, low plasticity	PID/PPM 225 FID/PPM 0.0		SWMU123 -DP06-10		
	11		PID/PPM 23.35 FID/PPM 0.0				Groundwater
	12		PID/PPM 103 FID/PPM 0.0				End of Boring
	13		NO FURTHER READINGS PAST 12 FT				
	14						

HTW DRILLING LOG

HOLE NO
SWMU123-DP07

1. COMPANY NAME BHATE	2. DRILLING CONTRACTOR BHATE	SHEET 1 OF 2 SHEETS
3. PROJECT SWMU123	4. LOCATION HOLLOMAN AFB, NM POL YARD	
5. NAME OF DRILLER MARK MUMBY	6. MANUFACTURER'S DESIGNATION OF DRILL GEOPROBE 66DT	
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT Direct Push Technology 48 INCH MACROCORE SAMPLER	8. HOLE LOCATION North East 9. SURFACE ELEVATION (ft. NGVD)	
	10. DATE STARTED 20-Apr-2004	11. DATE COMPLETED 20-Apr-2004
12. OVERBURDEN THICKNESS 12.0 ft	15. DEPTH GROUNDWATER ENCOUNTERED 11.0 ft	
13. DEPTH DRILLED INTO ROCK NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED NA	
14. TOTAL DEPTH OF HOLE 12.0 ft	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
Yes	8260B	6010B	8270C	8015B	9045B/C	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No f	Blow Counts g	REMARKS h
	0	0.0-0.4, Silty sand (SM), dark brown (7.5 YR 3/3), fine grained, dry		NA		NA	
		0.4-6.0 Silty sand (SM), reddish yellow (7.5 YR 6/6), very fine grained, moist					
	1		PID/PPM FID/PPM No results due to no recovery				
	2		PID/PPM 441 FID/PPM 0.0				
	3		PID/PPM 729 FID/PPM 0.07				
	4		PID/PPM 248 FID/PPM 0.02				
	5						

HTW DRILLING LOG

HOLE NO SWMU123-DP07

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 2 OF 2 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5		PID/PPM 419 FID/PPM 0.0				
	6	6.0-10.0, Poorly graded sand (SP), red (2.5 YR 4/6), w gypsum crystals, moist	PID/PPM 253 FID/PPM 0.01				
	7		PID/PPM 321 FID/PPM 0.07				
	8		PID/PPM 420 FID/PPM 0.07				
	9		PID/PPM 420 FID/PPM 0.01		SWMU123 -DP07-9		
	10	10.0-12.0, Clayey sand (SC), red (2.5YR 4/6), very fine grained, wet to moist, low plasticity	PID/PPM 188 FID/PPM 0.0		SWMU123 -DP07-10		
	11		PID/PPM 190 FID/PPM 0.0				Groundwater
	12		PID/PPM 179 FID/PPM 0.0 NO FURTHER READINGS PAST 12 FT				End of Boring
	13						
	14						

HTW DRILLING LOG

HOLE NO
SWMU123-DP08

1. COMPANY NAME	BHATE
2. DRILLING CONTRACTOR	BHATE
SHEET	1 OF 2 SHEETS
3. PROJECT	SWMU123
4. LOCATION	HOLLOMAN AFB, NM POL YARD
5. NAME OF DRILLER	MARK MUMBY
6. MANUFACTURER'S DESIGNATION OF DRILL	GEOPROBE 66DT
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT	Direct Push Technology 48 INCH MACROCORE SAMPLER
8. HOLE LOCATION	North East
9. SURFACE ELEVATION (ft. NGVD)	
10. DATE STARTED	20-Apr-2004
11. DATE COMPLETED	20-Apr-2004
12. OVERBURDEN THICKNESS	10.5 ft
15. DEPTH GROUNDWATER ENCOUNTERED	10.5 ft
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	10.5 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
Yes	8260B	6010B	8270C	8015B	9045B/C	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No f	Blow Counts g	REMARKS h
	0	0.0-0.4, Silty sand (SM), dark brown (7.5 YR 3/3), fine grained, dry		NA		NA	
		0.3-5.7 Silty sand (SM), reddish yellow (7.5 YR 6/6), very fine grained, moist					
	1		PID/PPM FID/PPM No results due to no recovery				
	2		PID/PPM 773 FID/PPM 0.02				
	3		PID/PPM 1285 FID/PPM 0.02				
	4		PID/PPM 1426 FID/PPM 0.02				
	5						

HTW DRILLING LOG

HOLE NO. SWMU123-DP08

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 2 OF 2 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5		PID/PPM 989 FID/PPM 0.01				
	6	5.7-9.4, Poorly graded sand (SP), red (2.5 YR 4/6), w gypsum crystals, moist	PID/PPM 538 FID/PPM 0.0				
	7		PID/PPM 1062 FID/PPM 0.0				
	8		PID/PPM 455 FID/PPM 0.01		SWMU123 -DP08-8		
	9		PID/PPM 769 FID/PPM 0.27		SWMU123 -DP08-9		
	10	9.4-12.0, Clayey sand (SC), red (2.5YR 4/6), very fine grained, wet to moist to moist, low plasticity	PID/PPM 898 FID/PPM 0.31				Groundwater
	11		PID/PPM 454 FID/PPM 0.74				
	12		PID/PPM 496 FID/PPM 0.06				End of Boring
	13		NO FURTHER READINGS PAST 12 FT				
	14						

HTW DRILLING LOG

HOLE NO: SWMU123-DP09

1. COMPANY NAME	BHATE
2. DRILLING CONTRACTOR	BHATE
SHEET	1 OF 2 SHEETS
3. PROJECT	SWMU123
4. LOCATION	HOLLOMAN AFB, NM POL YARD
5. NAME OF DRILLER	MARK MUMBY
6. MANUFACTURER'S DESIGNATION OF DRILL	GEOPROBE 66DT
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT	Direct Push Technology 48 INCH MACROCORE SAMPLER
8. HOLE LOCATION	North East
9. SURFACE ELEVATION (ft. NGVD)	
10. DATE STARTED	20-Apr-2004
11. DATE COMPLETED	20-Apr-2004
12. OVERBURDEN THICKNESS	12.0 ft
15. DEPTH GROUNDWATER ENCOUNTERED	10.5 ft
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	12.0 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
Yes	8260B	6010B	8270C	8015B	9045B/C	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
	X			JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No e	Analytical Sample No f	Blow Counts g	REMARKS h
	0	0.0-0.5, Silty sand (SM), dark brown (7.5 YR 3/3), fine grained, dry	Field screeening performed by sight and smell	NA		NA	
		0.5-5.6 Silty sand (SM), reddish yellow (7.5 YR 6/6), very fine grained, moist					
	1						
	2						
	3						
	4						
	5						

HTW DRILLING LOG

HOLE NO SWMU123-DP09

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 2 OF 2 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5		Field screeening performed by sight and smell				
		5.6-9.1, Poorly graded sand (SP), red (2.5 YR 4/6), w gypsum crystals, moist					
	6						
	7				SWMU123 -DP09-7		
	8						
	9	9.1-12.0, Clayey sand (SC), red (2.5YR 4/6), very fine grained, wet to moist to moist, low plasticity			SWMU123 -DP09-9		
	10						Groundwater
	11						
	12		Field screeening performed by sight and smell				End of Boring
	13						
	14						

HTW DRILLING LOG

HOLE NO.	SWMU123-MW01
1. COMPANY NAME	BHATE
2. DRILLING CONTRACTOR	BHATE
SHEET	1 OF 3 SHEETS
3. PROJECT	SWMU123
4. LOCATION	HOLLOMAN AFB, NM POL YARD
5. NAME OF DRILLER	MARK MUMBY
6. MANUFACTURER'S DESIGNATION OF DRILL	GEOPROBE 66DT
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT	Direct Push Technology 48 INCH MACROCORE SAMPLER
8. HOLE LOCATION	North East
9. SURFACE ELEVATION (ft. NGVD)	4092.392
10. DATE STARTED	15-Apr-2004
11. DATE COMPLETED	15-Apr-2004
12. OVERBURDEN THICKNESS	20.0 ft
13. DEPTH DRILLED INTO ROCK	NA
14. TOTAL DEPTH OF HOLE	20.0 ft
15. DEPTH GROUNDWATER ENCOUNTERED	13.0
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	9.7 ft 24 hrs
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
Yes	8260B	6010B/7471A	8270C	8015B	9045B/C	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		X		JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	0.0-4.4, Silty sand (SM), dark brown (7.5YR 3/3), fine grained, medium dense, gray discoloration from 3.0, strong hydrocarbon odor					
	1						
	2						
	3						
	4						
		4.4-7.7, Silty sand (SM), gray discoloration, very fine grained, dry to moist, medium dense, strong hydrocarbon odor					
	5						

HTW DRILLING LOG

HOLE NO. SWMU123-MW01

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5						
	6						
	7						
	8	7.7-10.9, Poorly graded sand (SP), gray discoloration, moist					
	9						
	10						
	11	10.9-20.0, Clayey sand (SC), gray to 13.5 ft, turns to red (2.5YR 4/6), very fine grained, moist to wet to moist, low plastcity					
	12						
	13						Groundwater
	14						

HTW DRILLING LOG

HOLE NO. SWMU123-MW01

SHEET 3 OF 3 SHEETS

PROJECT SWMU123

INSPECTOR JERRY PELFREY

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	14						
	15						
	16						
	17						
	18						
	19						
							End Of Boring
	20						
	21						
	22						

HTW DRILLING LOG

HOLE NO. SWMU123-MW02

1. COMPANY NAME	BHATE
2. DRILLING CONTRACTOR	BHATE
SHEET	1 OF 3 SHEETS
3. PROJECT	SWMU123
4. LOCATION	HOLLOMAN AFB, NM POL YARD
5. NAME OF DRILLER	MARK MUMBY
6. MANUFACTURER'S DESIGNATION OF DRILL	GEOPROBE 66DT
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT	Direct Push Technology 48 INCH MACROCORE SAMPLER
8. HOLE LOCATION	North East
9. SURFACE ELEVATION (ft. NGVD)	4092.312
10. DATE STARTED	16-Apr-2004
11. DATE COMPLETED	16-Apr-2004
12. OVERBURDEN THICKNESS	19.0 ft
15. DEPTH GROUNDWATER ENCOUNTERED	12.5 ft
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	11.8 ft 85 minutes
14. TOTAL DEPTH OF HOLE	19.0 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
Yes	8260B	6010B/7471A	8270C	8015B	9045B/C	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		X		JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	0.0-1.2, Silty sand (SM), dark brown (7.5YR 3/3), fine grained, dry, medium dense					
	1	1.2-7.1, Silty sand (SM), reddish yellow (7.5YR 6/6, very fine grained, dry, medium dense					
	2						
	3						
	4						
	5						

HTW DRILLING LOG

HOLE NO. SWMU123-MW02

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5						
	6						
	7	7.1-10.5, Poorly graded sand (SP), red (2.5YR 4/6), gypsum crystals, moist					
	8						
	9						
	10						
		10.5-19.0, Clayey sand (SC), red (2.5YR 4/6), very fine grained, moist to wet to moist, low plasticity					
	11						
	12						Groundwater
	13						
	14						

HTW DRILLING LOG

HOLE NO. SWMU123-MW02

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	14						
	15						
	16						
	17						
	18						
	19						End Of Boring
	20						
	21						
	22						

HTW DRILLING LOG

HOLE NO. SWMU123-MW03

SHEET 1 OF 3 SHEETS

1. COMPANY NAME	BHATE
2. DRILLING CONTRACTOR	BHATE
3. PROJECT	SWMU123
4. LOCATION	HOLLOMAN AFB, NM POL YARD
5. NAME OF DRILLER	MARK MUMBY
6. MANUFACTURER'S DESIGNATION OF DRILL	GEOPROBE 66DT
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT	Direct Push Technology 48 INCH MACROCORE SAMPLER
8. HOLE LOCATION	North East
9. SURFACE ELEVATION (ft. NGVD)	4092.552
10. DATE STARTED	16-Apr-2004
11. DATE COMPLETED	16-Apr-2004
12. OVERBURDEN THICKNESS	18.5 ft
13. DEPTH DRILLED INTO ROCK	NA
14. TOTAL DEPTH OF HOLE	18.5 ft
15. DEPTH GROUNDWATER ENCOUNTERED	12.0 ft
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	12.0 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
Yes	8260B	6010B/7471A	8270C	8015B	9045B/C	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		X		JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	0.0-0.5, Silty sand (SM), dark brown (7.5 YR 3/3), fine grained, dry					
		0.5-6.4, Silty sand (SM), reddish yellow (7.5 YR 6/6), fine grained, moist					
	1						
	2						
	3						
	4						
	5						

HTW DRILLING LOG

HOLE NO. SWMU123-MW03

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 2 OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5						
	6						
		5.9-10.2, Poorly graded sand (SP), red (2.5 YR 4/6), gypsum crystals at top, moist to wet					
	7						
	8						
	9						
	10						
		10.2-18.5, Clayey sand (SC), red (2.5YR 4/6), very fine grained, wet to moist, low plasticity					
	11						
							Groundwater
	12						
	13						
	14						

HTW DRILLING LOG

HOLE NO. SWMU123-MW03

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 3 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	14						
	15						
	16						
	17						
	18						End Of Boring
	19						
	20						
	21						
	22						

HTW DRILLING LOG

HOLE NO: SWMU123-MW04

1. COMPANY NAME	BHATE
2. DRILLING CONTRACTOR	BHATE
SHEET	1 OF 3 SHEETS
3. PROJECT	SWMU123
4. LOCATION	HOLLOMAN AFB, NM POL YARD
5. NAME OF DRILLER	MARK MUMBY
6. MANUFACTURER'S DESIGNATION OF DRILL	GEOPROBE 66DT
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT	Direct Pusk Technologfy 48 INCH MACROCORE SAMPLER
8. HOLE LOCATION	North East
9. SURFACE ELEVATION (ft. NGVD)	4092.432
10. DATE STARTED	16-Apr-2004
11. DATE COMPLETED	16-Apr-2004
12. OVERBURDEN THICKNESS	20.0 ft
15. DEPTH GROUNDWATER ENCOUNTERED	11.5 ft
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	11.5 ft 1hr
14. TOTAL DEPTH OF HOLE	20.0 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
None			

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
Yes	8260B	6010B/7471A	8270C	8015B	9045B/C	

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		X		JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	0.0-0.5, Backfill					
		0.5-1.6. Silty sand (SM), dark brown (7.5 YR 3/3), fine grained, dry					
	1						
		1.6-5.5, Silty sand (SM); reddish yellow (7.5 YR 6/6), fine grained, moist					
	2						
	3						
	4						
	5						

HTW DRILLING LOG

HOLE NO SWMU123-MW04

PROJECT SWMU123

INSPECTOR JERRY PELFREY

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5						
		5.5-9.9, Poorly graded sand (SP), red (2.5YR 4/6), gypsum crystals, moist					
	6						
	7						
	8						
	9						
		9.5-20.00, Clayey sand (SC),red (2.5YR 4/6), very fine grained, moist to wet, low plasticity					
	10						
	11						Groundwater
	12						
	13						
	14						

HTW DRILLING LOG

HOLE NO
SWMU123-MW04

PROJECT
SWMU123

INSPECTOR
JERRY PELFREY

SHEET 3
OF 3 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	14						
	15						
	16						
	17						
	18						
	19						
	20						End Of Boring
	21						
	22						

HTW DRILLING LOG

HOLE NO: SWMU123-MW05

1 COMPANY NAME	BHATE
2 DRILLING CONTRACTOR	BHATE
SHEET	1 OF 3 SHEETS
3 PROJECT	SWMU123
4 LOCATION	HOLLOMAN AFB, NM POL YARD
5 NAME OF DRILLER	MARK MUMBY
6 MANUFACTURER'S DESIGNATION OF DRILL	GEOPROBE 66DT
7 SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT	Direct Push Technology; 48 INCH MACROCORE SAMPLER
8 HOLE LOCATION	North East
9 SURFACE ELEVATION (ft. NGVD)	4092.012
10 DATE STARTED	15-Apr-2004
11 DATE COMPLETED	15-Apr-2004
12 OVERBURDEN THICKNESS	20.0 ft
15 DEPTH GROUNDWATER ENCOUNTERED	11.0 ft
13 DEPTH DRILLED INTO ROCK	20.0 ft
16 DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	11.0 ft 20 hrs
14 TOTAL DEPTH OF HOLE	20.0 ft
17 OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	

18 GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19 TOTAL NUMBER OF CORE BOXES
NO			

20 SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21 TOTAL CORE REC %
YES	8260B	6010B/7471A	8270C	8015B	9045B/C	

22 DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23 SIGNATURE OF INSPECTOR
		X		JERRY PELFREY

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No e	Analytical Sample No f	Blow Counts g	REMARKS h
	0	0.0-0.8, Silty sand (SM): dark brown (7.5YR 3/3, fine grained, moist, low plasticity, dense		NA		NA	SB05 was augered to become MW05
	1	0.8-4.5, Silty sand (SM): reddish yellow (7.5YR 6/6), fine grained, moist, low plasticity, dense	PID/PPM 12.64 FID/PPM 7.71				
	2		PID/PPM 9.73 FID/PPM 6.98				
	3		PID/PPM 8.86 FID/PPM 6.54				
	4		PID/PPM 8.30 FID/PPM 6.28				
	5	4.5-11.5, Poorly graded sand (SP), red (2.5 YR 4/6), very fine grained w gypsum crystals,					

HTW DRILLING LOG

HOLE NO. SWMU123-MW05

PROJECT: SWMU123

INSPECTOR: JERRY PELFREY

SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	5		PID/PPM 8.25 FID/PPM 6.08				
	6		PID/PPM 8.53 FID/PPM 6.31				
	7		PID/PPM 8.63 FID/PPM 8.62				
	8		PID/PPM 8.75 FID/PPM 7.09				
	9		PID/PPM 8.59 FID/PPM 6.44				
	10		PID/PPM 8.54 FID/PPM 11.12		SWMU123 -SB05-10		
	11		PID/PPM 8.84 FID/PPM 30.34		SWMU123 -SB05-11		Groundwater
		11.5-20.0, Clayey sand (SC), red (2.5YR 4/6), very fine grained, moist, low plasticity dense					
	12		PID/PPM 8.78 FID/PPM 25.5				
	13		PID/PPM 8.86 FID/PPM 17.70				
	14						

HTW DRILLING LOG

HOLE NO. SWMU123-MW05

PROJECT SWMU123

INSPECTOR JERRY PELFREY

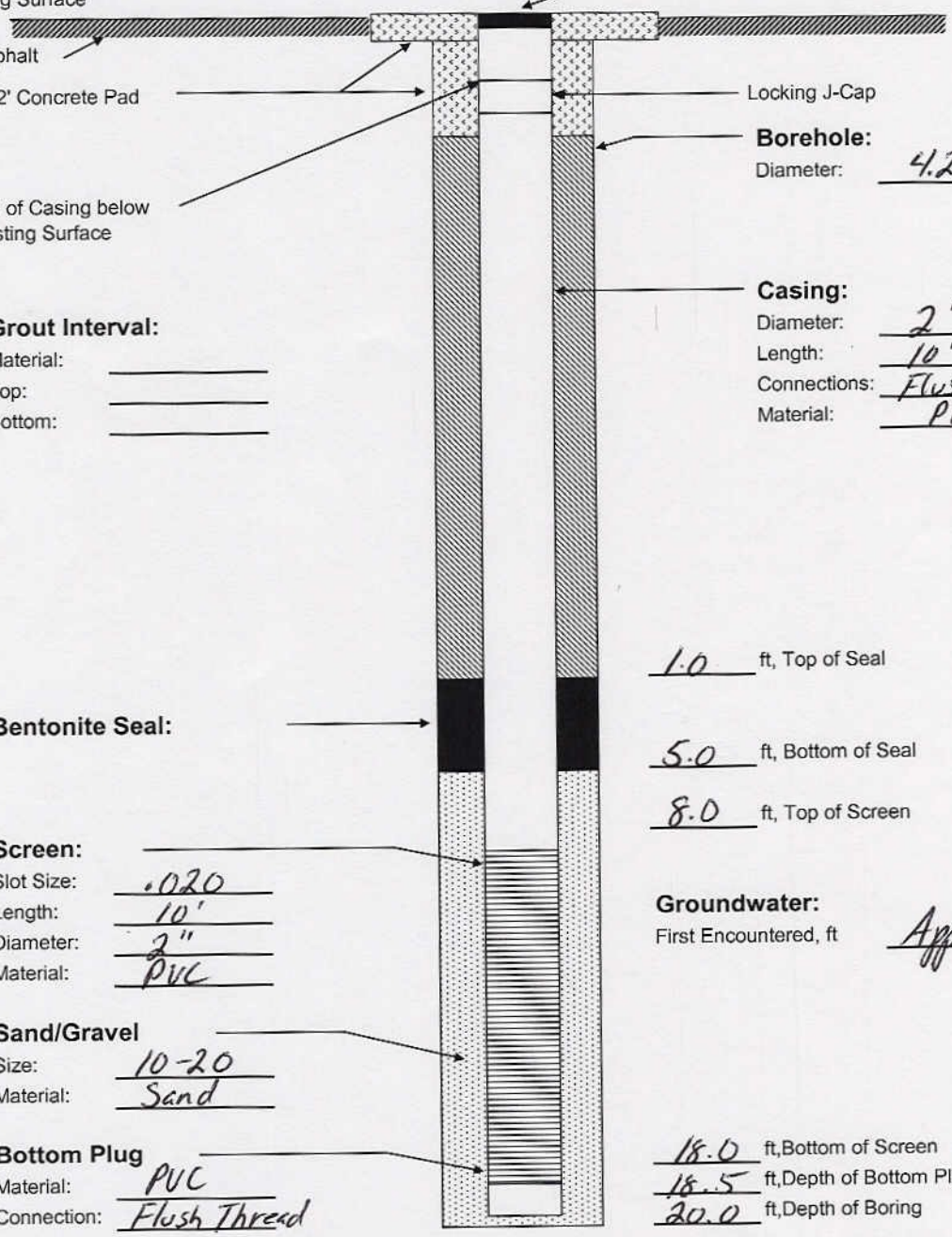
SHEET 2 OF 3 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	14		PID/PPM 8.25 FID/PPM 6.08				
	15		PID/PPM 8.53 FID/PPM 6.31				
	16		PID/PPM 8.63 FID/PPM 8.62				
	17		PID/PPM 8.75 FID/PPM 7.09				
	18		PID/PPM 8.59 FID/PPM 6.44				
	19		PID/PPM 8.54 FID/PPM 11.12		SWMU123 -SB05-10		
	20		PID/PPM 8.84 FID/PPM 30.34		SWMU123 -SB05-11		Groundwater
		11.5-20.0, Clayey sand (SC), red (2.5YR 4/6), very fine grained, moist, low plasticity dense					
	21		PID/PPM 8.78 FID/PPM 25.5				
	22		PID/PPM 8.86 FID/PPM 17.70				

Bhate Environmental Associates

Project:	SWMO 123	Well/Boring No.:	SB01 / MW01
Project No.:		Geologist:	M.F. Mumby
Boring Location:	P.O.L. Bldg	Date(s):	4/19/04
Drilling Method:	4.25" Solid Stem Auger	Drilling Contractor:	Bhate

NOT TO SCALE



Borehole:
Diameter: 4.25"

Casing:
Diameter: 2"
Length: 10'
Connections: Flush Thread
Material: PVC

Grout Interval:
Material:
Top:
Bottom:

Bentonite Seal:

1.0 ft, Top of Seal
5.0 ft, Bottom of Seal
8.0 ft, Top of Screen

Screen:
Slot Size: .020
Length: 10'
Diameter: 2"
Material: PVC

Groundwater:
First Encountered, ft: Approx 16.5'

Sand/Gravel
Size: 10-20
Material: Sand

Bottom Plug
Material: PVC
Connection: Flush Thread

18.0 ft, Bottom of Screen
18.5 ft, Depth of Bottom Plug
20.0 ft, Depth of Boring

Comments:

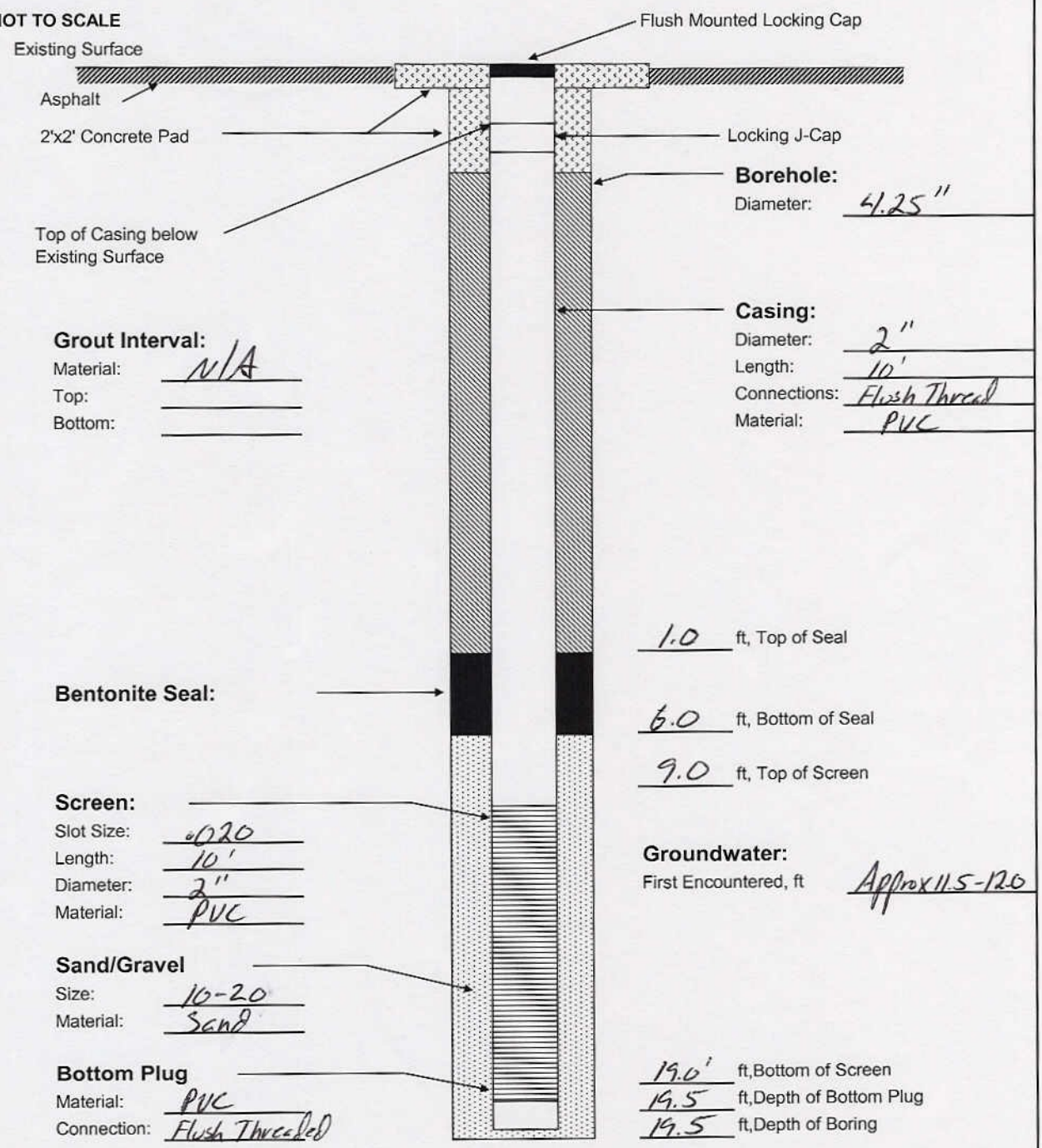
Screened Int 9-19'
T.O.S. 6
T.O.B. 1.0'

(3)

Bhate Environmental Associates

Project:	SWMU 123	Well/Boring No.:	SB02/MW02
Project No.:		Geologist:	M.E. Mumby
Boring Location:	P.O.L. Shelter	Date(s):	4/17/04
Drilling Method:	4.25" Solid Stem Auger	Drilling Contractor:	Bhate

NOT TO SCALE



Borehole:
Diameter: 4.25"

Casing:
Diameter: 2"
Length: 10'
Connections: Flush Thread
Material: PVC

Grout Interval:
Material: N/A
Top:
Bottom:

Bentonite Seal:

1.0 ft, Top of Seal
6.0 ft, Bottom of Seal
9.0 ft, Top of Screen

Screen:
Slot Size: .020
Length: 10'
Diameter: 2"
Material: PVC

Groundwater:
First Encountered, ft Approx 11.5-12.0

Sand/Gravel
Size: 10-20
Material: Sand

Bottom Plug
Material: PVC
Connection: Flush Threaded

19.0' ft, Bottom of Screen
19.5 ft, Depth of Bottom Plug
19.5 ft, Depth of Boring

Comments:

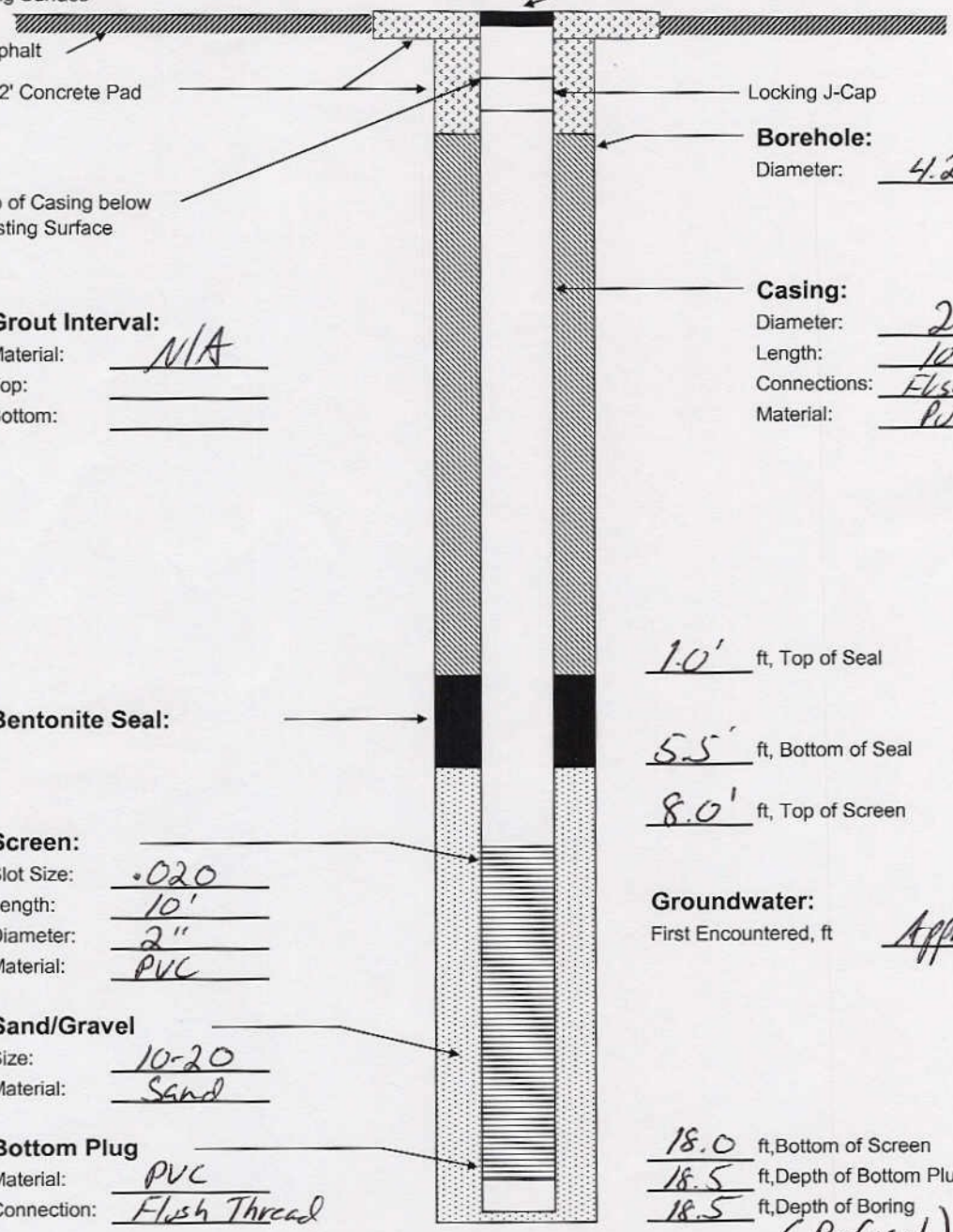
Screened 8-18.0'
T.O.S. 5'6"
T.O.B. 1.0'

(2)

Bhate Environmental Associates

Project:	SWMU 123	Well/Boring No.:	SB03/MW03
Project No.:		Geologist:	M.E. Mumby
Boring Location:	P.O.L. Building	Date(s):	4/17/04
Drilling Method:	Solid Stem Auger 4.25	Drilling Contractor:	Bhate

NOT TO SCALE



Borehole:
Diameter: 4.25"

Casing:
Diameter: 2"
Length: 10'
Connections: Flush Thread
Material: PVC

Grout Interval:
Material: N/A
Top:
Bottom:

Bentonite Seal:

1.0' ft, Top of Seal

5.5' ft, Bottom of Seal

8.0' ft, Top of Screen

Screen:
Slot Size: .020
Length: 10'
Diameter: 2"
Material: PVC

Groundwater:
First Encountered, ft Approx 11.5'

Sand/Gravel
Size: 10-20
Material: Sand

Bottom Plug
Material: PVC
Connection: Flush Thread

18.0 ft, Bottom of Screen
18.5 ft, Depth of Bottom Plug
18.5 ft, Depth of Boring (Refusal)

Comments:

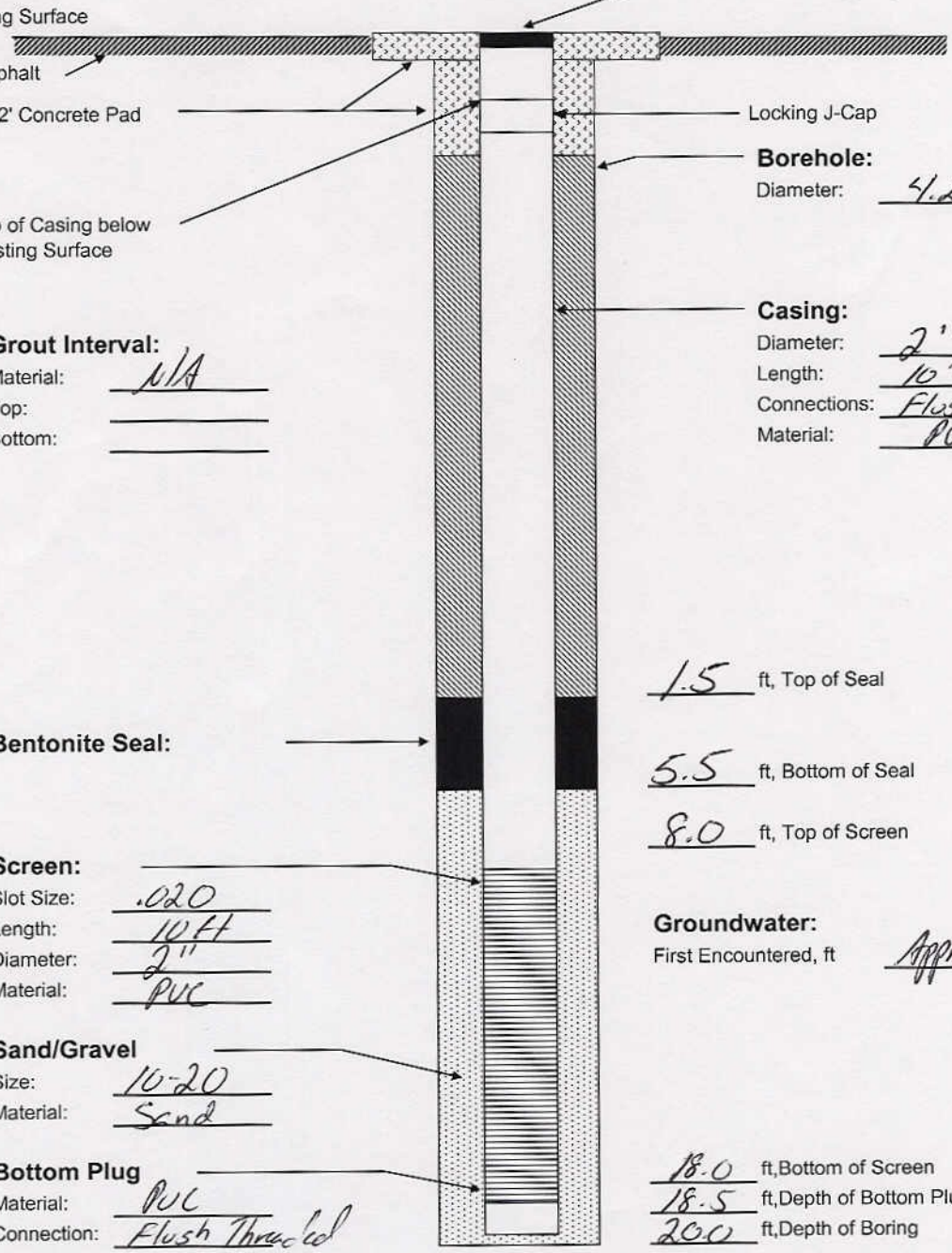
1. Screened Int 8-18.0'
2. T.O.S 5.5
3. T.O.B 1.5

①

Bhate Environmental Associates

Project:	SUMU 123	Well/Boring No.:	SB04/MW04
Project No.:		Geologist:	M. A. Mumby
Boring Location:	P.O.L Bldg	Date(s):	4/17/04
Drilling Method:	Solid Stem Auger 4.25"	Drilling Contractor:	Bhate

NOT TO SCALE



Borehole:
Diameter: 4.25"

Casing:
Diameter: 2"
Length: 10'
Connections: Flush Thread
Material: PVC

Grout Interval:
Material: N/A
Top:
Bottom:

1.5 ft, Top of Seal

Bentonite Seal:

5.5 ft, Bottom of Seal

8.0 ft, Top of Screen

Screen:
Slot Size: .020
Length: 10 ft
Diameter: 2"
Material: PVC

Groundwater:
First Encountered, ft Approx 11.0'

Sand/Gravel
Size: 10-20
Material: Sand

Bottom Plug
Material: PVC
Connection: Flush Threaded

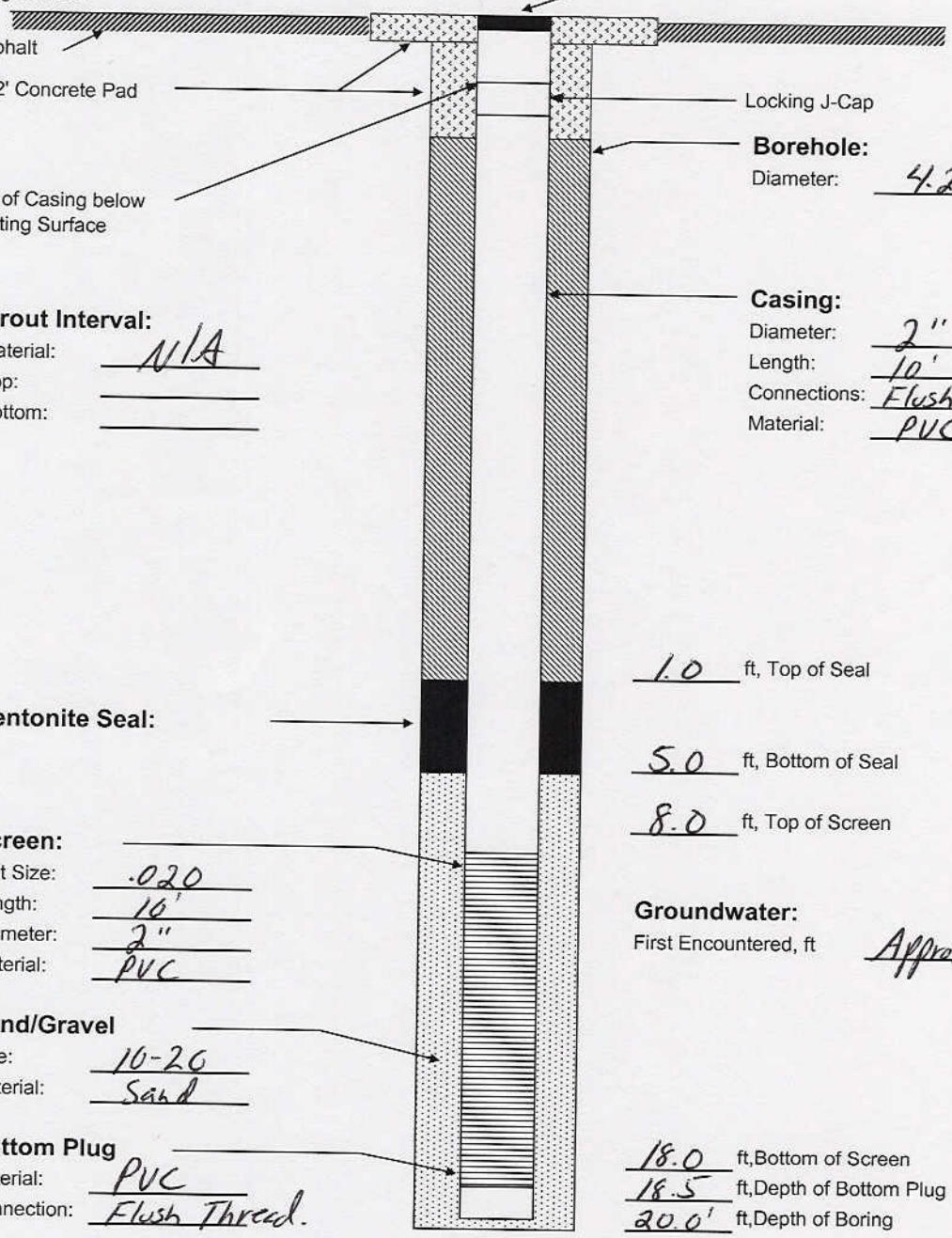
18.0 ft, Bottom of Screen
18.5 ft, Depth of Bottom Plug
20.0 ft, Depth of Boring

Comments:

Bhate Environmental Associates

Project:	SWMU 123	Well/Boring No.:	SB05/MW05
Project No.:		Geologist:	M.E. Mumby
Boring Location:	P.O.L. Bldg	Date(s):	4/19/04
Drilling Method:	4.25" Solid Stem Auger	Drilling Contractor:	Bhate

NOT TO SCALE



Borehole:
Diameter: 4.25"

Casing:
Diameter: 2"
Length: 10'
Connections: Flush Thread
Material: PVC

Grout Interval:
Material: N/A
Top:
Bottom:

Bentonite Seal:

1.0 ft, Top of Seal

5.0 ft, Bottom of Seal

8.0 ft, Top of Screen

Screen:
Slot Size: .020
Length: 10'
Diameter: 2"
Material: PVC

Groundwater:
First Encountered, ft Approx 11.0'

Sand/Gravel
Size: 10-20
Material: Sand

Bottom Plug
Material: PVC
Connection: Flush Thread.

18.0 ft, Bottom of Screen
18.5 ft, Depth of Bottom Plug
20.0' ft, Depth of Boring

Comments:

APPENDIX D

NON-AQUEOUS PHASE LIQUID FORENSICS ANALYSIS

ZymaX FORENSICS

September 27, 2004

Ms. Kristen Walker
Associated Laboratories
806 N. Batavia
Orange, CA. 92868

Project No.: 556700

Dear Ms. Walker,

Enclosed are analytical results for one NAPL sample ID LR-136832 submitted to ZymaX on September 22, 2004. The data were obtained from C3-C44 whole oil analysis by high resolution GC-FID.

My preliminary conclusion based on the analytical data indicates that the sample probably contains a mixture of gasoline, Jet fuel (or naphtha), and a mid-distillate (kerosene or diesel #1).

A detailed interpretive report discussing the chemical data, fuel type and estimate of their exposure time can be provided.

The project was performed at ZymaX forensics as Laboratory No.37316.

Please call us at **805.544.4696** if you have any questions regarding the analytical results, or you require a cost estimate for the report.

Respectfully,
ZymaX forensics

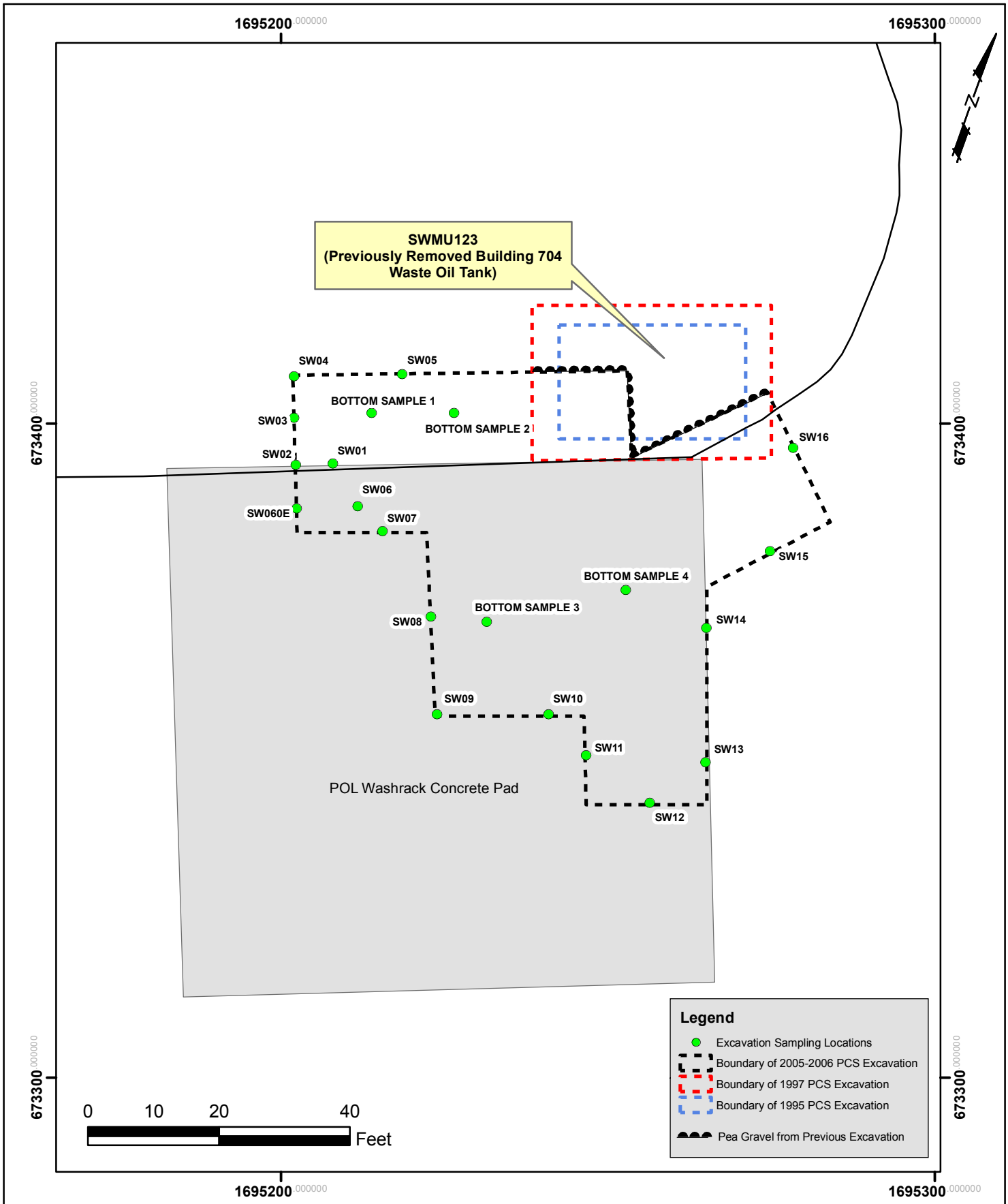
Shan-Tan Lu, Ph.D.
Director of Petroleum Geochemistry

Appendix A-8

Figures, Tables, and Analytical Data Packages from the SWMU 123 Voluntary Corrective Measures (PCS Excavation)

Bhate Environmental Associates, Inc., 2005-2006

(Note: Analytical Data Packages are Provided on CD only)



bhate ENVIRONMENTAL CONSTRUCTION ENERGY

SWMU 123
Excavation Area
(January 2006)

9050197	1"=20'	4/12/12	cm / fig_1

SWMU 123
Voluntary Corrective Measures
Holloman AFB, New Mexico

Figure 1

Table 1
SWMU 123 Excavation Soil Analytical Data (October 2005-January 2006)
Holloman AFB, New Mexico

Client Sample Identification:	Soil Screening Levels	SWMU123-SW01-6		SWMU123-SW02-6		SWMU123-SW03-6		SWMU123-SW04-6		SWMU123-SW05-6		SWMU123-SW06		SWMU123-SW06-OE		SWMU123-SW07	
Lab Sample Identification:	**NMED Residential[1]**	**F35744-1**		**F35744-2**		**F35744-3**		**F35744-4**		**F35744-5**		**F37432-1**		**F37721-1**		**F37432-2**	
Date Sampled:		**10/13/2005**		**10/13/2005**		**10/13/2005**		**10/13/2005**		**10/13/2005**		**12/19/2005**		**1/9/2006**		**12/19/2005**	
Analyte		**Result[2]**	**Q**	**Result[2]**	**Q**	**Result[2]**	**Q**	**Result[2]**	**Q**	**Result[2]**	**Q**	**Result[2]**	**Q**	**Result[2]**	**Q**	**Result[2]**	**Q**
Volatile Organic Compounds	**mg/kg**	**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**	
Acetone	67,500	29	U	31	U	31	U	28	U	31	U	75.2	J	30	U	34	U
Benzene	15.5	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
n-Butylbenzene	3,900 [4]	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
sec-Butylbenzene	NV [3]	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	13.9		2.4	U	2.7	U
Chloroform	5.72	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
Ethylbenzene	69.7	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
Ethyl methacrylate	7,040	5.8	U	6.2	U	6.2	U	5.7	U	6.3	U	7.6	U	5.9	U	6.8	U
Hexane	1,250	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
Isopropylbenzene	3,210	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
p-Isopropyltoluene	NV [3]	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
Naphthalene	45	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
n-Propylbenzene	3,400 [4]	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
1,2,4-Trimethylbenzene	62 [4]	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
1,3,5-Trimethylbenzene	780 [4]	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
Toluene	5,570	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
m,p-Xylene	NV [3]	2.9	U	3.1	U	3.1	U	2.8	U	3.1	U	3.8	U	3.0	U	3.4	U
o-Xylene	9,550	2.3	U	2.5	U	2.5	U	2.3	U	2.5	U	3.1	U	2.4	U	2.7	U
Semi-Volatile Organic Compounds	**mg/kg**	**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**	
Dibenzofuran	78 [4]	42	U	44	U	43	U	39	U	43	U	45	U	44	U	42	U
Indeno(1,2,3-cd)pyrene	6.21	84	U	88	U	86	U	79	U	86	U	89	U	89	U	83	U
Benzo(g,h,i)perylene	NV [3]	84	U	88	U	86	U	78	U	86	U	89	U	89	U	83	U
Diethyl phthalate	48,900	110	U	1510		110	U	98	U	110	U	110	U	110	U	100	U
bis(2-Ethylhexyl)phthalate	347	210	U	220	U	220	U	200	U	220	U	659		220	U	974	
Fluorene	2,290	42	U	53.2	J	43	U	39	U	43	U	45	U	44	U	42	U
2-Methylnaphthalene	310 [4]	42	U	292		43	U	39	U	43	U	45	U	44	U	42	U
Naphthalene	45	42	U	50.9	J	43	U	39	U	43	U	45	U	44	U	42	U
Total Petroleum Hydrocarbons	**mg/kg**	**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**	
TPH-Gasoline Range Organics (C6-C10)	880 [5]	3.7	U	3.9	U	4.2	U	3.4	U	3.7	U	77	U	14.9		5.2	U
TPH-Diesel Range Organics (C10-C22)	880 [5]	6.4	U	6.7	U	6.5	U	5.9	U	6.4	U	130	U	17.2		31	U
TPH-Oil Range Organics (>C22-C36)	880 [5]	6.4	U	6.7	U	6.5	U	5.9	U	6.4	U	818		16.6		296	
General Chemistry		**%**		**%**		**%**		**%**		**%**		**%**		**%**		**%**	
Solids, Percent	NV	77.8		74.4		75.9		83.2		77.2		74.3		73.2		80.1	

Notes:

NMED = New Mexico Environment Department
SWMU123 = Soild Waste Management Unit 123
SW = Side Wall Sample
OE = Over Excavation
FD = Field Duplicate
TPH = Total Petroleum Hydrocarbons
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NV = No Value
Q = Qualifier
U = Not detected
J = Indicates an estimated value

[1] NMED, December 2009. Technical Background Document for Development of Soil Screening Levels (SSLs), Revision 5.0.
[2] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[3] No Value established for NMED Residential SSL (December, 2009) and USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (November, 2011)
[4] USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (November, 2011)
[5] NMED, October 2006. TPH Screening Guidelines (Diesel #2/crankcase oil, Residential Direct Exposure)
Bold value indicate analytes above NMED SSLs (Rev 5.0, Dec 2009) or combined TPH results above NMED TPH Screening Guidelines for Diesel #2/crankcase oil (Table 2b., Oct 2006)

Table 1
SWMU 123 Excavation Soil Analytical Data (October 2005-January 2006)
Holloman AFB, New Mexico

Client Sample Identification:	Soil Screening Levels	SWMU123-SW08		SWMU123-SW08-OE		SWMU123-SW09		SWMU123-SW09-FD		SWMU123-SW010		SWMU123-SW011		SWMU123-SW012		SWMU123-SW013	
Lab Sample Identification:	NMED	F37432-3		F37741-3		F37432-4		F37432-5		F37432-6		F37432-7		F37432-8		F37432-9	
Date Sampled:	Residential[1]	12/19/2005		1/9/2006		12/19/2005		12/19/2005		12/19/2005		12/19/2005		12/19/2005		12/19/2005	
Analyte		Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q
Volatile Organic Compounds	mg/kg	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Acetone	67,500	37	U	38.4	J	28	U	29	U	53.7	J	37.2	J	31	U	35	U
Benzene	15.5	2.9	U	2.2	U	2.2	U	2.3	U	54.9		14.3		5.5	J	2.8	U
n-Butylbenzene	3,900 [4]	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
sec-Butylbenzene	NV [3]	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
Chloroform	5.72	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
Ethylbenzene	69.7	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
Ethyl methacrylate	7,040	7.4	U	5.5	U	5.5	U	5.7	U	6.6	U	6.4	U	6.2	U	7.0	U
Hexane	1,250	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
Isopropylbenzene	3,210	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
p-Isopropyltoluene	NV [3]	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
Naphthalene	45	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
n-Propylbenzene	3,400 [4]	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
1,2,4-Trimethylbenzene	62 [4]	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
1,3,5-Trimethylbenzene	780 [4]	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
Toluene	5,570	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	4.9	J	2.8	U
m,p-Xylene	NV [3]	3.7	U	2.7	U	2.8	U	2.9	U	3.3	U	3.2	U	6.5	J	3.5	U
o-Xylene	9,550	2.9	U	2.2	U	2.2	U	2.3	U	2.7	U	2.6	U	2.5	U	2.8	U
Semi-Volatile Organic Compounds	mg/kg	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Dibenzofuran	78 [4]	41	U	39	U	41	U	42	U	45	U	46	U	45	U	44	U
Indeno(1,2,3-cd)pyrene	6.21	81	U	79	U	82	U	85	U	89	U	92	U	91	U	88	U
Benzo(g,h,i)perylene	NV [3]	81	U	79	U	82	U	85	U	89	U	92	U	91	U	88	U
Diethyl phthalate	48,900	100	U	98	U	100	U	110	U	110	U	110	U	110	U	110	U
bis(2-Ethylhexyl)phthalate	347	200	U	200	U	210	U	210	U	220	U	230	U	230	U	220	U
Fluorene	2,290	41	U	39	U	41	U	42	U	45	U	46	U	45	U	44	U
2-Methylnaphthalene	310 [4]	41	U	73.6	J	41	U	42	U	45	U	46	U	45	U	44	U
Naphthalene	45	41	U	106	J	41	U	42	U	45	U	46	U	45	U	44	U
Total Petroleum Hydrocarbons	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
TPH-Gasoline Range Organics (C6-C10)	880 [5]	78	U	3.2	U	3.5	U	70	U	91	U	4.2	U	4.2	U	4.1	U
TPH-Diesel Range Organics (C10-C22)	880 [5]	6.2	U	5.9	U	6.1	U	6.4	U	6.8	U	6.9	U	6.8	U	6.7	U
TPH-Oil Range Organics (>C22-C36)	880 [5]	13.0		17.9		7.53	J	6.4	U	9.70	J	6.9	U	9.04	J	6.7	U
General Chemistry		%		%		%		%		%		%		%		%	
Solids, Percent	NV	79.8		82.7		79.6		78.4		73.7		70.8		71.9		74.3	

Notes:

NMED = New Mexico Environment Department
SWMU123 = Soild Waste Management Unit 123
SW = Side Wall Sample
OE = Over Excavation
FD = Field Duplicate
TPH = Total Petroleum Hydrocarbons
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NV = No Value
Q = Qualifier
U = Not detected
J = Indicates an estimated value

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[2] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[3] No Value established for NMED Residential SSL (December, 2009) and USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (June, 2011)
[4] USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (June, 2011)
[5] NMED, October 2006. TPH Screening Guidelines (Diesel #2/crankcase oil, Residential Direct Exposure)
Bold value indicate analytes above NMED SSLs (Rev 5.0, Dec 2009) or combined TPH results above NMED TPH Screening Guidelines for Diesel #2/crankcase oil (Table 2b., Oct 2006)

Table 1
SWMU 123 Excavation Soil Analytical Data (October 2005-January 2006)
Holloman AFB, New Mexico

Client Sample Identification:	Soil Screening Levels	SWMU123-SW014		SWMU123-SW15		SWMU123-SW16		SWMU123-BOTTOM1-11,13		SWMU123-BOTTOM2-11,13		SWMU123-BOTTOM-03		SWMU123-BOTTOM-04	
Lab Sample Identification:	NMED Residential[1]	F37432-10		F37783-1		F37783-2		F36173-1		F36173-2		F37741-1		F37741-2	
Date Sampled:		12/19/2005		1/11/2006		1/11/2006		10/27/2005		10/27/2005		1/9/2006		1/9/2006	
Analyte		Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q	Result[2]	Q
Volatile Organic Compounds	mg/kg	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Acetone	67,500	44.4	J	27	U	32	U	35	U	28	U	82.6		1,600	U
Benzene	15.5	2.7	U	2.2	U	2.6	U	2.8	U	57.5		23.3		130	U
n-Butylbenzene	3,900 [4]	12.3		2.2	U	2.6	U	2.8	U	2.2	U	32.9		470	
sec-Butylbenzene	NV [3]	57.8		2.2	U	2.6	U	2.8	U	3.9	J	44.9		1,380	
Chloroform	5.72	2.7	U	2.2	U	2.6	U	2.8	U	2.2	U	7.7		130	U
Ethylbenzene	69.7	11.3		2.2	U	2.6	U	22.7		33.0		203	J	2,540	
Ethyl methacrylate	7,040	6.7	U	5.4	U	6.4	U	7.0	U	6.1	J	32.4		330	U
Hexane	1,250	2.7	U	2.2	U	2.6	U	2.8	U	2.2	U	44.6	J	130	U
Isopropylbenzene	3,210	19.7		2.2	U	2.6	U	4.7	J	6.0		75.8		1,410	
p-Isopropyltoluene	NV [3]	2.7	U	2.2	U	2.6	U	2.8	U	3.7	J	30.9		408	
Naphthalene	45	2.7	U	2.2	U	2.6	U	2.8	U	2.2	U	34.0		952	
n-Propylbenzene	3,400 [4]	21.8		2.2	U	2.6	U	5.2	J	3.6	J	87.0		2,670	
1,2,4-Trimethylbenzene	62 [4]	2.7	U	2.2	U	2.6	U	14.8		23.0		327		3,210	
1,3,5-Trimethylbenzene	780 [4]	2.7	U	2.2	U	2.6	U	4.3	J	14.5		112		886	
Toluene	5,570	2.7	U	2.2	U	2.6	U	2.8	U	159		238	J	234	J
m,p-Xylene	NV [3]	3.3	U	2.7	U	3.2	U	20.9		58.3		353		829	
o-Xylene	9,550	2.7	U	2.2	U	2.6	U	2.8	U	40.8		155		366	
Semi-Volatile Organic Compounds	mg/kg	µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg		µg/kg	
Dibenzofuran	78 [4]	49.2	J	39	U	38	U	45	U	44	U	39	U	41	U
Indeno(1,2,3-cd)pyrene	6.21	92	U	78	U	77	U	90	U	94.9	J	79	U	82	U
Benzo(g,h,i)perylene	NV [3]	92	U	78	U	77	U	90	U	257		79	U	82	U
Diethyl phthalate	48,900	110	U	98	U	96	U	110	U	110	U	99	U	100	U
bis(2-Ethylhexyl)phthalate	347	230	U	200	U	190	U	220	U	220	U	200	U	210	U
Fluorene	2,290	46	U	39	U	38	U	45	U	44	U	39	U	41	U
2-Methylnaphthalene	310 [4]	47.8	J	39	U	38	U	45	U	44	U	876		42.3	J
Naphthalene	45	46	U	39	U	38	U	45	U	44	U	2,310		41	U
Total Petroleum Hydrocarbons	mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
TPH-Gasoline Range Organics (C6-C10)	880 [5]	67.3		3.6	U	3.4	U	4.4	U	13.3		21.4		203	
TPH-Diesel Range Organics (C10-C22)	880 [5]	57.6		6.0	U	5.9	U	6.9	U	7.13	J	21.0		10.1	
TPH-Oil Range Organics (>C22-C36)	880 [5]	15.6		6.0	U	5.9	U	6.9	U	19.2		18.4		7.57	J
General Chemistry		%		%		%		%		%		%		%	
Solids, Percent	NV	71.1		82.1		84.7		72.7		74.7		84.6		80.6	

Notes:

NMED = New Mexico Environment Department
SWMU123 = Soild Waste Management Unit 123
SW = Side Wall Sample
OE = Over Excavation
FD = Field Duplicate
TPH = Total Petroleum Hydrocarbons
µg/kg = micrograms per kilogram
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[1] NMED, December 2009. Technical Background Document for Development of Soil Screening Levels (SSLs), Revision 5.0.
[2] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[3] No Value established for NMED Residential SSL (December, 2009) and USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (June,2011)
[4] USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (June, 2011)
[5] NMED, October 2006. TPH Screening Guidelines (Diesel #2/crankcase oil, Residential Direct Exposure)
Bold value indicate analytes above NMED SSLs (Rev 5.0, Dec 2009) or combined TPH results above NMED TPH Screening Guidelines for Diesel #2/crankcase oil (Table 2b., Oct 2006)

Table 2
SWMU-123 Stockpiled Soil Analytical Data (October-December 2005)
Holloman AFB, New Mexico

Client Sample Identification:	**Soil Screening Levels**	**SWMU123-OB5-1,4**		**SWMU123-PCS6-4,11**		**SWMU123-OB18**		**SWMU123-PCS15**	
Lab Sample Identification:	**NMED**	**F36078-1**		**F36078-2**		**F37043-1**		**F37043-2**	
Date Sampled:	**Residential[1]**	**10/25/2005**		**10/25/2005**		**12/2/2005**		**12/2/2005**	
Analyte		**Result[2]**	**Q**	**Result[2]**	**Q**	**Result[2]**	**Q**	**Result[2]**	**Q**
Volatile Organic Compounds	**mg/kg**	**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**	
Benzene	15.5	2.1	U	1,400	U	2.0	U	1,270	J
n-Butylbenzene	3,900 [4]	2.1	U	5,590		2.0	U	7,180	
sec-Butylbenzene	NV [3]	2.1	U	8,420		2.0	U	5,700	
Ethylbenzene	69.7	2.1	U	47,400		5.6		39,000	
Hexane	1,250	2.1	U	2,270	J	2.0	U	1,120	J
Isopropylbenzene	3,210	2.1	U	14,700		2.0	U	9,890	
p-Isopropyltoluene	NV [3]	2.1	U	5,370		2.0	U	3,570	
Naphthalene	45	2.1	U	3,540		2.0	J	7,260	
n-Propylbenzene	3,400 [4]	2.1	U	21,600		2.3	J	15,600	
1,2,4-Trimethylbenzene	62 [4]	2.1	U	36,300		5.2		37,500	
1,3,5-Trimethylbenzene	780 [4]	2.1	U	18,200		2.0	U	13,000	
Toluene	5,570	2.1	U	12,800		6.7		30,500	
m,p-Xylene	NV [3]	2.7	U	29,600		8.3	J	46,500	
o-Xylene	9,550	2.1	U	12,500		3.3	J	22,800	
Semi-Volatile Organic Compounds	**mg/kg**	**µg/kg**		**µg/kg**		**µg/kg**		**µg/kg**	
2,4-Dinitrotoluene	15.7	70	U	80	U	79	U	572	
Dibenzofuran	78 [4]	35	U	100	J	39	U	246	
Fluorene	2,290	35	U	65.4	J	39	U	173	J
2-Methylnaphthalene	310 [4]	35	U	1,920		39	U	5,330	
Naphthalene	45	35	U	816		39	U	2,380	
Phenanthrene	1,830	35	U	40	U	39	U	174	J
Total Petroleum Hydrocarbons (TPH)	**mg/kg**	**mg/kg**		**mg/kg**		**mg/kg**		**mg/kg**	
TPH-Gasoline Range Organics (C6-C10)	880 [5]	2.9	U	**3,220**		3.3	U	**1,840**	
TPH-Diesel Range Organics (C10-C22)	880 [5]	5.2	U	549		6.0	U	**1,100**	
TPH-Oil Range Organics (>C22-C36)	880 [5]	27.2		60	U	6.0	U	NA	
General Chemistry		**%**		**%**		**%**		**%**	
Solids, Percent	NV	94.2		83.3		82.9		77.3	

Notes:
NMED = New Mexico Environment Department
SWMU123 = Solid Waste Management Unit 123
OB = Overburden
PCS = Petroleum Contaminated Soil
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NV = No Value
NA = Not Analyzed
Q = Qualifier
U = Not detected
J = Estimated result. Result is between the Method Detection Limit (MDL) and the Reporting Limit (RL), and/or qualified by the validating chemist.
[1] NMED, December 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0. (Residential Soil)
[2] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[3] No Value established for NMED Residential SSL (December 2009) and USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (November 2011)
[4] USEPA Regions 3, 6, and 9 RSLs (November 2011)
[5] NMED, October 2006. TPH Screening Guidelines (Diesel #2/crankcase oil, Residential Direct Exposure)
Bold value indicate analytes above NMED Soil Screening Levels (Rev 5.0, Dec 2009) or combined TPH results above NMED TPH Screening Guidelines for Diesel #2/crankcase oil (Table 2b, Oct 2006)

AUG 19 - NOV 30
2005

TRUCK LOG
FROM SWMU 123

FT 31
LANDFARM

Date	Time	Truck number	Driver's name	Volume	Unit	Cell Placement	Over Burden	Desc. of Cont.	Fid	Pid	Cumulative
09/27/05	7:45		R. Jones	5	CY	A-1		PCS (JP4)			5
09/27/05	9:20		R. Jones	5	CY	A-1		PCS (JP4)			10
09/27/05	10:27		R. Jones	5	CY		X	PCS (JP4)			15
09/27/05	10:38		R. Jones	5	CY		X	PCS (JP4)			20
09/27/05	11:15		R. Jones	5	CY		X	PCS (JP4)			25
09/27/05	12:15		R. Jones	5	CY		X	PCS (JP4)			30
09/27/05	12:40		R. Jones	5	CY		X	PCS (JP4)			35
09/27/05	13:00		R. Jones	5	CY		X	PCS (JP4)			40
09/27/05	13:51		R. Jones	5	CY	A-1		PCS (JP4)			45
09/27/05	14:32		S. Chesters	5	CY	A-1		PCS (JP4)			50
09/28/05	8:16		R. Jones	5	CY	A-1		PCS (JP4)			55
09/28/05	8:43		R. Jones	5	CY		X	PCS (JP4)			60
09/28/05	9:55		R. Jones	5	CY	A-1		PCS (JP4)			65
09/28/05	10:22		R. Jones	5	CY	A-1		PCS (JP4)			70
09/28/05	10:56		R. Jones	5	CY	A-1		PCS (JP4)			75
09/28/05	12:28		R. Jones	5	CY	A-1		PCS (JP4)			80
09/28/05	14:52		R. Jones	5	CY	A-1		PCS (JP4)			85
09/30/05	8:14		R. Jones	4	CY	A-1		PCS (JP4)			89
09/30/05	1-:06		R. Jones	5	CY		X	PCS (JP4)			94
09/30/05	10:44		R. Jones	5	CY		X	PCS (JP4)			99
09/30/05	11:12		R. Jones	5	CY		X	PCS (JP4)			104
09/30/05	14:09		R. Jones	5	CY		X	PCS (JP4)			109
09/30/05	14:48		R. Jones	5	CY		X	PCS (JP4)			114
10/03/05	8:06		R. Jones	5	CY	A-1		PCS (JP4)			119
10/03/05	9:24		R. Jones	5	CY	A-1		PCS (JP4)			124
10/03/05	9:57		R. Jones	5	CY		X	PCS (JP4)			129
10/03/05	10:32		R. Jones	5	CY	A-1		PCS (JP4)			134
10/03/05	12:01		R. Jones	5	CY	A-1		PCS (JP4)			139
10/03/05	12:39		R. Jones	5	CY	A-1		PCS (JP4)			144
10/03/05	13:22		R. Jones	5	CY	A-1		PCS (JP4)			149
10/03/05	14:21		R. Jones	5	CY	A-1		PCS (JP4)			154
10/24/05	8:30		R. Jones	6	CY		X	PCS (JP4)			160
10/24/05	8:51		R. Jones	6	CY		X	PCS (JP4)			166
10/24/05	9:15		R. Jones	6	CY		X	PCS (JP4)			172
10/24/05	9:59		R. Jones	6	CY		X	PCS (JP4)			178

TRUCK LOG
FROM SWMU 123

Date	Time	Truck number	Driver's name	Volume	Unit	Cell Placement	Over Burden	Desc. of Cont.	Fid	Pid	Cumulative
10/24/05	10:20		R. Jones	6	CY	A-2		PCS (JP4)			184
10/24/05	10:48		R. Jones	6	CY	A-2		PCS (JP4)			190
10/24/05	11:40		R. Jones	6	CY	A-2		PCS (JP4)			196
10/24/05	12:11		R. Jones	6	CY	A-2		PCS (JP4)			202
10/24/05	12:42		R. Jones	6	CY	A-2		PCS (JP4)			208
10/24/05	13:09		R. Jones	6	CY	A-2		PCS (JP4)			214
10/24/05	13:39		R. Jones	6	CY	A-2		PCS (JP4)			220
10/24/05	14:37		R. Jones	6	CY	A-2		PCS (JP4)			226
10/24/05	15:12		R. Jones	6	CY	A-2		PCS (JP4)	240	30	232
10/25/05	8:06		S. Chesters	2	CY	A-2		PCS (JP4)			234
10/25/05	8:35		S. Chesters	5	CY		X	PCS (JP4)			239
10/25/05	9:10		S. Chesters	5	CY		X	PCS (JP4)			244
10/25/05	9:41		S. Chesters	5	CY		X	PCS (JP4)			249
10/25/05	10:21		S. Chesters	5	CY		X	PCS (JP4)			254
10/25/05	10:49		S. Chesters	5	CY		X	PCS (JP4)			259
10/25/05	11:14		S. Chesters	5	CY	A-2		PCS (JP4)			264
10/25/05	12:08		S. Chesters	5	CY	A-2		PCS (JP4)			269
10/25/05	12:50		S. Chesters	5	CY	A-2		PCS (JP4)			274
10/25/05	13:45		S. Chesters	5	CY	A-2		PCS (JP4)			279
10/25/05	14:18		R. Wood	5	CY	A-2		PCS (JP4)			284
10/26/05	9:04		R. Wood	5	CY	A-2		PCS (JP4)			289
10/26/05	9:38		R. Wood	5	CY	A-2		PCS (JP4)			294
10/26/05	10:14		R. Wood	5	CY	A-2		PCS (JP4)			299
10/26/05	10:48		R. Wood	5	CY	A-2		PCS (JP4)			304
10/26/05	13:56		R. Wood	5	CY	A-2		PCS (JP4)			309
11/17/05	13:09	FORD	R. Jones	5	CY	Reuse Yard		Concrete			314
11/17/05	13:47	FORD	R. Jones	5	CY	Reuse Yard		PCS (JP4)			319
11/17/05	14:28	FORD	R. Jones	5	CY	Reuse Yard		PCS (JP4)			324
11/18/05	8:02	FORD	R. Jones	5	CY	Reuse Yard		PCS (JP4)			329
11/18/05	9:04	4023	R. Jones	10	CY	Reuse Yard		PCS (JP4)			339
11/18/05	9:04	FORD	S. Chesters	5	CY	Reuse Yard		PCS (JP4)			344
11/18/05	10:46	4023	R. Jones	10	CY	Reuse Yard		PCS (JP4)			354
11/18/05	12:53	4023	R. Jones	10	CY	Reuse Yard		PCS (JP4)			364
11/21/05	9:00	4023	R. Jones	10	CY	Reuse Yard		PCS (JP4)			374
11/21/05	11:00	4023	R. Wood	10	CY	Reuse Yard		PCS (JP4)			384

TRUCK LOG
FROM SWMU 123

Date	Time	Truck number	Driver's name	Volume	Unit	Cell Placement	Over Burden	Desc. of Cont.	Fid	Pid	Cumulative
11/21/05	2:00	FORD	R. Wood	5	CY	Reuse Yard		PCS (JP4)			389
11/22/05	9:00	4023	R. Wood	10	CY	Reuse Yard		PCS (JP4)			399
11/22/05	11:00	4023	R. Wood	10	CY	Reuse Yard		PCS (JP4)			409
11/22/05	2:00	4023	R. Wood	10	CY	Reuse Yard		PCS (JP4)			419
11/23/05	1:13	4023	T. Lucero	16	CY		X	PCS (JP4)			435
11/23/05	1:35	5 Yd	T. Lucero	5	CY		X	PCS (JP4)			440
11/23/05	2:25	4023	T. Lucero	16	CY	A-2		PCS (JP4)			456
11/28/05	8:54	5 YD	R. Wood	5	CY		X	PCS (JP4)			461
11/28/05	9:20	5 YD	R. Wood	5	CY		X	PCS (JP4)			466
11/28/05	9:50	5 YD	R. Wood	5	CY		X	PCS (JP4)			471
11/28/05	10:16	5 YD	R. Wood	5	CY		X	PCS (JP4)			476
11/28/05	11:15	5 YD	R. Wood	5	CY	A-2		PCS (JP4)			481
11/28/05	12:47	5 YD	R. Wood	5	CY		X	PCS (JP4)			486
11/28/05	1:40	5 YD	R. Wood	5	CY		X	PCS (JP4)			491
11/28/05	2:29	5 YD	R. Wood	5	CY	A-2		PCS (JP4)			496
11/28/05	3:09	5 YD	R. Wood	5	CY		X	PCS (JP4)			501
11/28/05	3:30	5 YD	R. Wood	5	CY	B-1		PCS (JP4)			506
11/28/05	8:40	4023	E. Gamboa	15	CY		X	PCS (JP4)			521
11/28/05	9:50	4023	E. Gamboa	10	CY	A-2		PCS (JP4)			531
11/28/05	11:00	4023	E. Gamboa	10	CY		X	PCS (JP4)			541
11/28/05	12:00	4023	E. Gamboa	10	CY		X	PCS (JP4)			551
11/28/05	13:30	4023	E. Gamboa	15	CY		X	PCS (JP4)			566
11/28/05	14:03	4023	E. Gamboa	10	CY	A-2		PCS (JP4)			576
11/28/05	14:43	4023	E. Gamboa	15	CY		X	PCS (JP4)			591
11/28/05	15:20	4023	E. Gamboa	10	CY		X	PCS (JP4)			601

TRUCK LOGS
QUARTER 10 FT-31 LANDFARM

ALL SOIL FROM POL WASH RACK SWMU 123

Date	Time	Truck number	Driver's name	Volume	Unit	Cell Placement	Over Burden	Desc. of Cont.
11/29/05	9:07	FORD	R. Jones	5	CY		X	
11/29/05	9:22	FORD	R. Jones	5	CY		X	
11/29/05	9:35	FORD	R. Jones	5	CY		X	
11/29/05	9:52	FORD	R. Jones	5	CY		X	
11/29/05	10:20	FORD	R. Jones	5	CY		X	
11/29/05	10:40	FORD	R. Jones	5	CY		X	
11/29/05	10:56	FORD	R. Jones	5	CY		X	
11/29/05	11:20	FORD	R. Jones	5	CY		X	
11/29/05	12:33	FORD	R. Jones	5	CY	B-1		PCS (JP4)
11/29/05	13:02	FORD	R. Jones	5	CY	B-1		PCS (JP4)
11/29/05	13:18	FORD	R. Jones	5	CY		X	
11/29/05	13:30	FORD	R. Jones	5	CY		X	
11/29/05	13:41	FORD	R. Jones	5	CY		X	
11/29/05	13:57	FORD	R. Jones	5	CY		X	
11/29/05	14:10	FORD	R. Jones	5	CY		X	
11/29/05	14:29	FORD	R. Jones	5	CY		X	
11/29/05	15:01	FORD	R. Jones	5	CY		X	
11/29/05	8:35	4023	R. Jones	12	CY	Reuse Yard	Concrete	
11/29/05	12:16	4023	R. Jones	10	CY		X	
11/29/05	1:15	4023	R. Jones	5	CY	B-1		PCS (JP4)
11/29/05	1:48	4023	R. Jones	10	CY		X	
11/29/05	2:40	4023	R. Jones	10	CY		X	
11/30/05	8:31	FORD	R. Jones	5	CY		X	
11/30/05	8:49	FORD	R. Jones	5	CY	B-1		PCS (JP4)
11/30/05	9:39	FORD	R. Jones	5	CY	B-1		PCS (JP4)
11/30/05	10:14	FORD	R. Wood	5	CY		X	
11/30/05	10:28	FORD	R. Jones	5	CY		X	
11/30/05	10:45	FORD	R. Wood	5	CY		X	
11/30/05	11:02	FORD	R. Jones	5	CY	B-1		PCS (JP4)
11/30/05	12:25	FORD	R. Wood	5	CY		X	
11/30/05	12:40	FORD	R. Wood	5	CY	B-1		PCS (JP4)
11/30/05	1:00	FORD	R. Wood	5	CY	B-1		PCS (JP4)
11/30/05	1:19	FORD	R. Jones	5	CY	B-1		PCS (JP4)
11/30/05	1:54	FORD	R. Jones	5	CY	B-1		PCS (JP4)
11/30/05	2:52	FORD	R. Jones	6	CY	B-1		PCS (JP4)

TRUCK LOGS
QUARTER 10 FT-31 LANDFARM

ALL SOIL FROM POL WASH RACK SWMU 123

Date	Time	Truck number	Driver's name	Volume	Unit	Cell Placement	Over Burden	Desc. of Cont.
11/30/05	8:22	4023	R. Jones	12	CY		X	
11/30/05	10:10	4023	R. Jones	7	CY	B-1		PCS (JP4)
11/30/05	10:51	4023	R. Jones	7	CY		X	
11/30/05	12:16	4023	R. Jones	10	CY	B-1		PCS (JP4)
11/30/05	13:11	4023	R. Jones	12	CY	B-1		PCS (JP4)
11/30/05	14:31	4023	R. Jones	10	CY	B-1		PCS (JP4)
11/30/05	15:15	4023	R. Jones	10	CY	B-1		PCS (JP4)
12/01/05	8:08	FORD	R. Jones	5	CY	B-1		PCS (JP4)
12/01/05	8:36	FORD	R. Jones	5	CY	B-1		PCS (JP4)
12/01/05	10:22	FORD	R. Jones	5	CY	B-1		PCS (JP4)
12/01/05	8:26	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/01/05	11:46	4023	R. Jones	14	CY	B-1		PCS (JP4)
12/01/05	12:26	4023	R. Jones	15	CY	B-1		PCS (JP4)
12/01/05	12:56	4023	R. Jones	12	CY		X	
12/01/05	13:31	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/01/05	14:27	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/01/05	14:56	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/02/05	8:14	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/02/05	9:33	4023	R. Jones	10	CY	B-1		PCS (JP4)
12/02/05	10:08	4023	R. Jones	12	CY		X	
12/02/05	10:37	4023	R. Jones	12	CY		X	
12/02/05	12:20	4023	R. Jones	12	CY		X	
12/02/05	13:02	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/02/05	13:44	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/02/05	14:31	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/02/05	15:05	4023	R. Jones	12	CY	B-1		PCS (JP4)
12/05/05	9:25	4023	R. Wood	12	CY	B-1		PCS (JP4)
12/05/05	10:17	4023	R. Wood	12	CY	B-1		PCS (JP4)
12/05/05	10:46	4023	R. Wood	12	CY		X	
12/05/05	12:00	4023	R. Wood	12	CY		X	
12/05/05	12:40	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/05/05	13:30	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/05/05	14:40	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/05/05	15:15	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/06/05	8:52	4023	R. Wood	12	CY	B-2		PCS (JP4)

TRUCK LOGS
QUARTER 10 FT-31 LANDFARM

ALL SOIL FROM POL WASH RACK SWMU 123

Date	Time	Truck number	Driver's name	Volume	Unit	Cell Placement	Over Burden	Desc. of Cont.
12/06/05	11:06	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/06/05	12:32	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/06/05	13:19	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/06/05	14:21	4023	R. Wood	12	CY		X	
12/06/05	14:50	4023	R. Wood	10	CY		X	
12/07/05	8:42	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/07/05	9:40	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/07/05	11:08	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/07/05	13:00	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/07/05	14:00	4023	R. Wood	12	CY		X	
12/07/05	14:57	4023	R. Wood	12	CY		X	
12/08/05	10:14	4023	R.Wood	12	CY	B-2		PCS (JP4)
12/08/05	12:53	4023	R.Wood	12	CY	B-2		PCS (JP4)
12/08/05	13:38	4023	R.Wood	12	CY	B-2		PCS (JP4)
12/08/05	14:34	4023	R.Wood	12	CY	B-2		PCS (JP4)
12/09/05	8:22	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/09/05	9:56	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/09/05	10:49	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/09/05	13:27	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/09/05	14:53	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/12/05	9:33	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/12/05	10:32	4023	R. Wood	12	CY	B-2		PCS (JP4)
12/12/05	12:33	4023	R. Wood	12	CY	B-3		PCS (JP4)
12/12/05	14:19	4023	R. Wood	12	CY	B-3		PCS (JP4)
12/13/05	10:50	4023	R. Wood	12	CY	B-3		PCS (JP4)
12/13/05	13:20	4023	R. Wood	12	CY	B-3		PCS (JP4)
01/05/06	2:07	4023	R. Wood	2	CY	Reuse Yard	Concrete	
01/09/06	9:00	4023	R.Wood	2	CY	Reuse Yard	Concrete	
01/09/06	12:30	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/09/06	13:00	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/09/06	15:00	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	7:45	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	8:10	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	8:24	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	8:40	4023	R. Wood	10	CY	B-3		PCS (JP4)

TRUCK LOGS
QUARTER 10 FT-31 LANDFARM

ALL SOIL FROM POL WASH RACK SWMU 123

Date	Time	Truck number	Driver's name	Volume	Unit	Cell Placement	Over Burden	Desc. of Cont.
01/10/06	8:55	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	9:10	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	9:27	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	9:42	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	9:56	4023	R. Wood	10	CY		X	
01/10/06	10:09	4023	R. Wood	10	CY		X	
01/10/06	10:22	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	10:37	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/10/06	12:14	4023	R. Wood	10	CY	B-3		PCS (JP4)
01/11/06	7:39	4023	R. Wood	16	CY		X	
01/11/06	7:55	4023	R. Wood	16	CY		X	
01/11/06	8:18	4023	R. Wood	16	CY		X	
01/11/06	8:29	4023	R. Wood	16	CY		X	
01/20/06	12:44	4023	R. Wood	6	CY	B-3		PCS (JP4)
01/20/06	13:05	4023	R. Wood	6	CY	B-3		PCS (JP4)
01/20/06	13:30	4023	R. Wood	6	CY	B-3		PCS (JP4)
01/20/06	14:33	4023	R. Wood	8	CY	B-3		PCS (JP4)
01/20/06	14:49	4023	R. Wood	10	CY	B-3		PCS (JP4)
02/07/06		853	R.Wood	6	CY	Reuse Yard	Concrete	
02/07/06		853	R.Wood	6	CY	Reuse Yard	Concrete	

APPENDIX B
SOIL BORING LOGS

HTW DRILLING LOG

HOLE NO. SWMU122- DP01

SHEET 1 OF 2 SHEETS

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/9/09 — 11. DATE COMPLETED: 7/9/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~ 10.5' bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: —
14. TOTAL DEPTH OF HOLE: 12' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
2 Samples	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled	Chip			[signature]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No f	Blow Counts g	REMARKS h
	0	Gravel Backfill material					
	1	Silty Clay (CL) moist - very soft 10YR 7/8 - light tan	0-2 PID: 0.5 ppm				
	2						
	3		2-4 PID: 0.6 ppm				
	4	Silty Sand (SM) light tan - 10YR 8/4					
	5	moist @ 5' bgs			SWMU 122-DP01-5 @ 0825		

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO: SWMU122- DP01

HTW DRILLING LOG

HOLE NO. SWMU122- DP01

SHEET 2 OF 2 SHEETS

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above					
			4-6 PID: 0.8				
	6	Silty clay (SMC) 2.5YR 6/4 - reddish brown slightly plastic gypsum interbedded					
	7		6-8 PID: 0.6				
	8						
	9		8-10 PID: 0.8				
	10	Capilary Fringe @ 10.5' bgs			SWMU122-DP01-10.5 @ 0815		
		Silty Sand (SM) 10YR 8/4 - light tan moist					
	11		10-12 PID: 0.7				
	12	TD: 12' bgs					
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122- DP02

SHEET 1 OF 2 SHEETS

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/9/09 — 11. DATE COMPLETED: 7/9/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~10
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: —
14. TOTAL DEPTH OF HOLE: 12	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
4 Samples: Inc MS/MSD	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled	Chip			[signature]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Gravel Backfill material					
	1	Silt (SM) 10YR 7/8 - light tan very soft	0-2 PID: 1.0				
	2						
	3	Silty Sand (SM) 10YR 8/4 light tan					
	4		2-4 PID: 0.9		SWMU122-DP02-5 @ 0850		
	5						

HTW DRILLING LOG

HOLE NO. SWMU122- DP02

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
			4-6 PID: 1.0				
	6	Silty Clay (ML)					
		2.5YR 6/4 - reddish brown					
	7	Slightly pastic					
			6-8 PID: 1.0				
	8						
		minor gypsum xls					
	9	intermixed					
			8-10 PID: 0.9				
	10	moist @ 10' bgs			SWMU122-DP02-10		
		Capillary Fringe			SWMU122-DP02-10-MS		
					SWMU122-DP02-10-MSD		
	11	Sand - Silty Sand (SM)			@ 0900		
		light tan	10-12 PID: 1.0				
	12	TD: 12' bgs					
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122- DP03

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/9/09 — 11. DATE COMPLETED: 7/9/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~10' bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: —
14. TOTAL DEPTH OF HOLE: 12	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
2 sample	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled	Chip			[signature]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Gravel Backfill material					
	1	Silt - Silty Sand 10YR 7/8 - light tan very slightly moist very fine grained.	0-2 PID: 1.1				
	2						
	3	Silty Sand 10YR 8/4 - light tan fine grained high gypsum content	2-4 PID: 1.0		SWMU122-DP03-5 @ 0925		
	4						
	5						

HTW DRILLING LOG

HOLE NO. SWMU122- DP03

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above					
	6	Silty Clay (ML) 2.5YR 6/4 - reddish brown	4-6 PID: 0.9				
	7	coarse gypsum rds interbedded	6-8 PID: 0.9				
	8						
	9						
	10	Capillary Fring @ 10' bgs	8-10 PID: 1.3	23	SWMU122-DP03-10 @0935		
		Sand (SW) light brown moist well sorted					
	11		10-12 PID: 1.1				
	12	TD: 12' bgs					
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122- DP04/MW01

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/9/09 — 11. DATE COMPLETED: 7/9/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: —
14. TOTAL DEPTH OF HOLE: 18	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): —

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
3 samples: Inc FD	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well		1" Prepack		[signature]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Gravel Backfill Material					
	1	Silty Sand (SM) 10YR 7/8 - light brown moist	0-2 PID: 1.2				
	2						
	3		2-4 PID: 1.3				
	4	Silty Sand (SM) 10YR 8/4 - light tan moist very soft.					SWMU122-DP04-S @ 1005
	5						

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO. SWMU122- DP04/~~MW01~~ MW01

HTW DRILLING LOG

HOLE NO. SWMU122-DP04/MW01

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above	4-6 PID: 1.2				
	6						
		Silty Clay (ML) 2.5YR 6/4 reddish brown					
	7						
		minor gypsum xls intermixed slightly plastic	6-8 PID: 1.2				
	8						
	9						
	10	Capillary Fringe @ 10' bgs	8-10 PID: 1.1		SWMU122-DP04-10 SWMU122-DP04-10-a		@1015
		Silty Sand (SM) 10YR 8/4 - light brown slightly moist					
	11						
		Sand (SM) 10YR 6/4 - light brown					
	12	Saturated @ 12' bgs	10-12 PID: 1.1				
	13						
		Silty Sand 10YR 6/4 - light brown					
	14	Dense very fine grained moist.	12-14 PID: 0.9				
	15						
	16						
		Silty Clay (ML) 2.5YR 6/4 - reddish brown	14-16 PID: 0.9				
	17	Plastic Dense moist gypsum xls intermixed					
	18	TD: 18' bgs	16-18 PID: 1.0				
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122-DP05

SHEET 1 OF 2 SHEETS

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/9/09 — 11. DATE COMPLETED: 7/9/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
2 Samples		X	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
None	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Backfilled	Chip			[signature]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Gravel Backfill Material					
	1	Silt (SM) 10YR 7/8 - light brown very slightly moist soft	0-2 PID: 0.5				
	2						
	3		2-4 PID: 0.7				
	4	Silty Sand (SM) 10YR 8/4 - light tan fine grained high gypsum content		SWMU122-DP05-4 @ 1140 (Geotechnical Sample 3-4' bgs) ~~SWMU122-DP05~~ 2B			
	5						

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO. SWMU122-DP05

HTW DRILLING LOG

HOLE NO. SWMU122- DP05

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above	4-6 PID: 0.3				
	6						
		Silty Clay 2.5 YR 6/4 - reddish brown slightly Plastic					
	7		6-8 PID: 0.6				
	8			SWMU122-DP05-8 @ 1145 (Geotechnical Sample @ 7-8' bgs)			
	9	Silty Sand (SM) 10YR 8/4 light tan	8-10 PID: 0.6				
	10	TD: 10' bgs					
	11						
	12						
	13						
	14						
	15						
	16						
	17						
	18						
	19						
	20						

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO. SWMU122- DP05

HTW DRILLING LOG

HOLE NO: SWMU122-MW02

SHEET 1 OF 2 SHEETS

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/09/09 — 11. DATE COMPLETED: 7/09/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 10-12' bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
NA	~~VOC/SVOC~~	~~TAL~~	TPH-~~(G,D,O)~~	~~PCBs~~		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
				D. McNel

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Asphalt					
		Road Base, Backfill material					
	1						
		SILT, light brown, 10YR/7/8, moist, plastic, (MH)	0'-2' PID: 0.6				
	2						
	3						
	4	SILTY SAND, light brown, 10YR/7/8, loose, moist, fine grained sand, (ML)	2'-4' PID: 0.5				
	5						

HTW DRILLING LOG

HOLE NO. SWMU122- MW02

SHEET 2 OF 2 SHEETS

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR:

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	6	SILTY SAND, reddish brown, 2.5YR/6/4, loose, moist, fine grained sand, gypsum crystal inclusions. (ML)	4'-6' PID: 0.5				
	7						
	8	SILTY SAND, light tan, 10YR/8/4, dense, moist, fine grained sand, (ML).	6'-8' PID: 0.7				
	9						
	10	SILTY SAND, light brown, 10YR/7/8, medium, moist, fine grained sand, (ML)	8'-10' PID: 0.8				
	11						
	12	SILTY CLAY, light brown, 10YR/7/8, dense, moist, (ML), saturated @ 12'	10'-12' PID: 0.6				
	13	SILTY CLAY, reddish brown, 2.5YR/6/4, plastic, moist, (ML)					
	14	SAND, brown, 10YR/4/4, medium grained, saturated, loose, (SM).	12'-14' PID: 0.8				
	15						
	16	CLAY (ML) 2.5YR 6/4 - reddish brown	14'-16' PID: 0.4				
	17	gypsum xls intermixed					
	18	TD: 18' bgs	16'-18' PID: 0.4				
	19						
	20						

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO. SWMU122-MW02

HTW DRILLING LOG

HOLE NO. SWMU122- MW03

SHEET 1 OF 2 SHEETS

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/10/09 — 11. DATE COMPLETED: 7/10/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 10-12' bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
None	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well		1" Prepack		[signature]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Asphalt surface.					
	1	Road Base Gravel Backfill.	0-2 PID: 0.6				
	2	Silt light brown - 10YR 7/8 fines					
	3		2-4 PID: 0.4				
	4	Silty Sand (SM) light tan - 10YR 8/4 slightly moist					
	5						

HTW DRILLING LOG

HOLE NO. SWMU122- MW03

SHEET 2 OF 2 SHEETS

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	6	Silty Sand (SM) 2.5YR 6/4 - reddish brown	4-6 PID: 0.8				
	7	course gypsum x's	6-8 PID: 1.0				
	8	↓ increasing gypsum content w/depth					
	9	Sand white gypsum sand Dense.	8-10 PID: 1.3				
	10						
	11	Silty Sand (SM) light brown - 10YR 7/8	10-12 PID: 1.3				
	12	Saturated @ 12' bgs					
	13	Sand 10YR 8/4 - light tan Saturated	12-14 PID: 1.1				
	14	Silty Clay (ML) 2.5YR 6/4 - reddish brown					
	15	course gypsum inclusions slightly plastic					
	16		14-16 PID: 1.2				
	17						
	18	Sand - Dense very fine grained. light brown 10YR 7/8 moist	16-18 PID: 1.1				
		TD: 18' bgs					
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122- mw04

SHEET 1 OF 2 SHEETS

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/10/09 — 11. DATE COMPLETED: 7/10/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
None	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well		1" Prepack		[signature]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Asphalt Surface					
	1	Road Base Gravel Backfill					
	2	Silt - light brown (ML) 10YR 7/8 slitly moist	0-2 PID: 0.5				
	3	Silty Sand (SM) light tan 10YR 8/4					
	4		2-4 PID: 0.0				
	5						

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO. SWMU122- mw04

HTW DRILLING LOG

HOLE NO. SWMU122- MW04

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above	4-6 PID: 0.6				
	6						
	7						
	8		6-8 PID: 0.5				
	9	Silty Sand (SM) Reddish brown 2.5YR 6/4					
	10		8-10 PID: 0.7				
		course gypsum xls intermixed					
	11						
		Silty Sand (SM) light brown 10YR 7/(8) moist					
	12		10-12 PID: 0.5				
	13	Sand (SW) white					
	14	High gypsum content Saturated from 13-15' bgs.	12-14 PID: 0.5				
	15						
	16	Silty Clay (ML) 2.5YR 6/4 Reddish brown moist slightly plastic	14-16 PID: 0.6				
	17						
	18	TD: 19' bgs	16-18 PID: 0.4				
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122- MW05

SHEET 1 OF 1 SHEETS

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/10/09 — 11. DATE COMPLETED: 7/10/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: 10' bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
None	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well		1" Prepack		

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Asphalt surface					
	1	Road base Backfill material					
	2	Silty Sand (SW) light brown 10YR 7/8 Fine grained well sorted	~~0-2~~ PID: 0.4				
	3						
	4		2-4 PID: 0.4				
	5	Silty Sand light tan - 10YR 8/4					

HTW DRILLING LOG

HOLE NO SWMU122-MW05

PROJECT SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above	4-6 PID: 0.5				
	6						
	7	Silty Sand (SW) Reddish brown 2.5YR 6/4					
	8	coarse gypsum xls. intermixed w/ fine grained matrix.	6-8 PID: 0.5				
	9						
	10	moist @ 10' bgs	8-10 PID: 0.6				
	11	Sand light brown 10YR 7/8 Saturated					
	12		10-12 PID: 0.8				
	13	Silty cemented Sand (Caliche layer) Dense dry. V. fine grained					
	14		12-14 PID: 0.9				
	15	Silty Clay reddish brown 2.5YR 6/4 intermixed w/ coarse gypsum xls. plastic / moist					
	16		14-16 PID: 0.6				
	17						
	18	Silt Sand - Dense light brown 10YR 7/8 TD: 18' bgs	16-18 PID: 0.6				
	19						
	20						

HTW DRILLING LOG

HOLE NO: SWMU122- MW06

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/9/09 — 11. DATE COMPLETED: 7/9/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~10' bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
None	VOC/SVOC	TAL	TPH-(G,D,O)	PCBs		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well		1" Prepack		[signature]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Asphalt					
		Road Base Backfill Material					
	1						
	2	Silt 10YR 7/8- light brown slightly moist very soft.	0-2 PID: 0.5				
	3						
	4	Silty Sand 10YR 8/4- light tan thin band	2-4 PID: 0.6				
		Silty Sand (SW) 2.5YR 6/4 Reddish brown gypsum xls throughout					
	5						

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO: SWMU122- MW06

HTW DRILLING LOG

HOLE NO: SWMU122- MW06

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above					
	6	Increase gypsum content w/ depth	4-6 PID: 0.0				
	7		6-8 PID: 0.8				
	8	Silty Sand (SM) 10YR 8/4 - light tan					
	9	Sand white gypsum sand	8-10 PID: 0.6				
	10	moist/wet @ 10' bgs well sorted / Fine grained					
	11	Silty Sand 10YR 6/4 - light brown					
	12	Saturated from 11 - 13' bgs	10-12 PID: 0.7				
	13		12-14 PID: 0.4				
	14	Silty Clay (ML) 2.5YR 6/4 - reddish brown					
	15		14-16 PID: 0.7				
	16						
	17	Silty Sand (SM) Dense 10YR 8/4 - light tan					
	18	TD: 18' bgs	16-18 PID: 0.8				
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122- MW07

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/8/09 — 11. DATE COMPLETED: 7/8/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~10' bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
NA	~~VOC/SVOC~~	~~TAL~~	~~TPH (G,D,O)~~	~~PCBs~~		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well	X	1" Prepack		

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Asphalt Surface					
		Road Base					
	1	Silty Sand (SW) 10 YR 7/8 - light tan loose - unconsolidated	0-2 PID: 0.6				
	2						
	3						
	4	Silty Sand 2.5 YR 6/4 - reddish brown moist gypsum xls interbedded	2-4 PID: 0.5				
	5						

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO. SWMU122- MW07

HTW DRILLING LOG

HOLE NO. SWMU122- MW07

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR: Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above					
	6		4-6 PID: 0.5				
		increasing gypsum content w/ depth.					
	7						
		Silty Sand - moist					
	8	10YR 8/4 - light tan	6-8 PID: 0.3				
	9						
	10	saturated @ 10' bgs	8-10 PID: 0.8				
	11	saturated @ 11' bgs					
	12		10-12 PID: 1.0				
		Sand (SW)					
	13	10YR 8/2 - white					
		Caliche					
		Dense - High Gypsum content	12-14 PID: 0.6				
	14	Silty Clay					
		2.5YR 6/4 - reddish brown					
	15	Dense					
		Slightly Plastic					
	16		14-16 PID: 0.7				
		Very course gypsum					
	17	crystals interbedded					
		moist					
	18		16-18 PID: 1.2				
		TD: 18' bgs					
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122- MW08

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/8/09 — 11. DATE COMPLETED: 7/8/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~10' bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
None	~~VOC/SVOC~~	~~TAL~~	~~TPH (G,D,O)~~	~~PCBs~~		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well	No	1" Prepack		

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Gravel Landscaping					
		Brown topsoil / Backfill					
	1		0-2 PID ZB 0.1 ppm				
		Silty Clay (ML) 10 YR 7/8 - light tan moist					
	2						
		Silty Sand (SM) 10YR 8/4 - light tan loose					
	3		PID 2-4: 0.2 ppm				
	4						
	5						

HTW DRILLING LOG

HOLE NO SWMU122- MW08

PROJECT SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR [illegible]

SHEET 2 OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
			4-6 PID: 0.7ppm				
	6	Silty Sand (SM) 2.5 YR 6/4 - reddish brown Small gypsum xls intermixed					
	7		6-8 PID: 0.8ppm				
	8	Silty sand - light tan moist					
	9	Silty Sand (SM) 7.5YR 6/4 - light brown fine grained	8-10 PID: 0.7ppm				
	10	moist @ 10' bgs					
	11	Sand (SW) well sorted 10YR 8/4 - light tan moist - wet Dense	10-12 PID: 0.5ppm				
	12						
	13		12-14 PID: 0.8ppm				
	14	Sand (SW) Dense - caliche lense High Gypsum Content - Fine grained					
	15	Silty Sand (SM) 7.5 YR 6/4 - light brown moist	14-16 PID: 1.0ppm				
	16						
	17	Silty Clay (ML) 2.5 YR 5/6 - reddish brown Dense	16-18 PID: 0.2ppm				
	18	TD: 18' bgs					
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122-MW09

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/8/2009 — 11. DATE COMPLETED: 7/8/2009
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~9.5 bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18' bgs	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	—	—	—

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
None	~~VOC/SVOC~~	~~TAL~~	~~TPH-(G,D,O)~~	~~PCBs~~		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well	—	1" Prepack		

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Gravel Landscaping, brown, backfill/topsoil					
	1	SILTY CLAY, light tan, medium plasticity, moist, (ML) (10YR 7/8)	0-2 PID: 0.4ppm				
	2						
	3		2-4 PID: 0.4 ppm				
	4						
	5						

HTW DRILLING LOG

HOLE NO SWMU122- MW09

PROJECT SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR

SHEET 2 OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	6	SILTY SAND, reddish brown, fine grained sand, loose, moist, (SM) (10YR 7/4)	4-6 PID: 0.9 ppm				
	7						
	8	SILTY SAND, reddish brown, coarse gypsum crystal inclusions dense, moist, (ML) (2YR/5/6)	6-8 PID: 1.1 ppm				
	9						
	10	SILTY CLAY, light tan, plastic, saturated, (ML) (10YR/7/8)	8-10 PID: 1.0 ppm				
	11	SAND, fine grained, gray petroleum staining, saturated, loose, (SM) (2.5YR/6/0)	10-12 PID: 1168 ppm				
	12						
	13		12-14 PID: 1002 ppm				
	14	SILTY SAND, caliche, white with gray staining, dense, non-plastic, moist, (ML) (10YR/8/2)					
	15						
	16	SILTY SAND, reddish brown, fine grained sand, loose, moist, (ML) (2.5YR/5/6)	14-16 PID: 952 ppm				
	17						
	18	End of Boring @ 18'	16-18 PID: 2.3 ppm				
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122-MW10

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/07/09 — 11. DATE COMPLETED: 7/07/09
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: 8'
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 20'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
N/A	~~VOC/SVOC~~	~~TAL~~	TPH-(~~G,D~~,O)	~~PCBs~~		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
monitoring well		1" pre-pack		O. [illegible]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	CLAY, brown to tan, moist, plastic, (CL) (10YR,4,4)					
	1	SILTY CLAY, light tan, moist, plastic, (ML) (10YR,7,8)	0'-2' PID: 0.6ppm				
	2						
	3		2'-4' PID: 0.6ppm				
	4	SILTY SAND, light tan, moist, loose, (SM), (10YR, 8,4)					
	5						

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

HOLE NO. SWMU122-MW10

HTW DRILLING LOG

HOLE NO. SWMU122-MW10

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR:

SHEET 2 OF SHEETS 2

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		same as above					
	6	SILTY SAND, reddish brown, moist, plastic, (SM) (2.5YR, 6, 4)	4'-6' PID: 0.6ppm				
	7						
	8	SAND, light tan, saturated, medium grained loose, (SM), (10YR, 8, 3)	6'-8' PID: 0.7ppm				
	9						
	10	SAND, brown, saturated, fine grained, loose, (SM), (10YR, 6, 4)	8'-10' PID: 0.9ppm				
	11						
	12		10'-12' PID: 0.5ppm				
	13						
	14	SAND, reddish brown, saturated, fine grained, medium dense, (SM), (2.5YR, 5, 4)	12'-14' PID: 0.6ppm				
	15						
	16	SILTY CLAY, reddish brown, dense, coarse grained gypsum crystal inclusions, moist, (ML), (2.5YR, 5, 6)	14'-16' PID:				
	17						
	18		16'-18' PID: 0.8ppm				
	19						
	20	End of Boring @ 20'	18'-20' PID: 0.9ppm				

HTW DRILLING LOG

HOLE NO. SWMU122-MW11

SHEET 1 OF 2 SHEETS

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/7/09 — 11. DATE COMPLETED: 7/7/09
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 18'	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
NA	NA	NA	NA

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
NA	~~VOC/SVOC~~	~~TAL~~	~~TPH-(G,D,O)~~	~~PCBs~~		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring well	—	1" Prepack		

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Gravel Landscaping Brown backfill / topsoil					
	1		0-2 PID: 0.9				
	2	Silty Clay (ML) 10YR 7/8 - light tan moist slightly plastic					
	3		2-4 PID: 0.7				
	4	Silty Sand (SM) 2.5YR 6/4 - reddish brown intermixed w/ coarse gypsum s/s.					
	5						

HTW DRILLING LOG

HOLE NO SWMU122-MW11

PROJECT SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR Zachary Beck

SHEET 2 OF 2 SHEETS

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above					
	6	increasing gypsum content w/ depth	4-6 PID: 0.8				
	7						
		Silty Sand (SM) 10YR 8/3 - light tan Dry - dense high gypsum content	6-8 PID: 0.9				
	8						
	9						
		Sand 8/3 zB (SW) 10 YR [redacted] light tan wet - Saturated @ 10' bgs medium grained well sorted	8-10 PID: 0.9				
	10						
	11						
		Sand - Silty Sand (SM) 10YR 6/4 - Brown Dense - Moist well sorted	10-12 PID: 0.7				
	12						
	13						
		Silty Sand 2.5YR 5/4 - reddish brown fine grained. wet @ 14-16' bgs	12-14 PID: 0.9				
	14						
	15		14-16 PID: 0.8				
	16						
		Silty Clay 2.5YR 5/6 - reddish brown Dense Coarse gypsum xls intermixed	16-18 PID: 0.9				
	17						
	18						
		TD: 18' bgs					
	19						
	20						

HTW DRILLING LOG

HOLE NO. SWMU122-MW12

1. COMPANY NAME: NationView, LLC.	2. DRILLING CONTRACTOR: Vironex, Inc.
SHEET 1 OF 2 SHEETS	
3. PROJECT: SWMUs 122 and 123 RCRA Facility Investigation	4. LOCATION: Holloman Air Force Base, New Mexico
5. NAME OF DRILLER: Gene Grenier	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 6600
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: Geoprobe 6600; 3.25" Dual Tube Sampling System	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 7/07/09 — 11. DATE COMPLETED: 7/07/09
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
	N/A	N/A	N/A

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE REC %
N/A	~~VOC/SVOC~~	~~TAL~~	TPH-~~(G,D,O)~~	~~PCBs~~		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Monitoring Well	—	1" prepack		[illegible]

ELEV a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
	0	Gravel Landscaping, brown backfill/topsoil					
	1	SILTY CLAY, light tan, medium plasticity, (ML), moist (10YR 7/8)	0-2' PID: 0.5ppm				
	2						
	3		2-4' PID: 0.4ppm				
	4	SILTY SAND, light tan, moist, loose, (SM) (10YR 8/4).					
	5						

HTW DRILLING LOG

HOLE NO. SWMU122-MW12

PROJECT: SWMUs 122 and 123 RCRA Facility Investigation

INSPECTOR:

SHEET 2 OF SHEETS 2

ELEV. a	DEPTH b	DESCRIPTION OF MATERIALS c	Field Screening Results d	Geotech Sample or Core Box No. e	Analytical Sample No. f	Blow Counts g	REMARKS h
		Same as above					
	6		4'-6' PID: 0.8ppm				
	7	SILTY CLAY, reddish brown, plastic, moist. (ML) ~~(10YR 8/4)~~ gypsum crystal inclusions (2.5YR 6/4)					
	8		6'-8' PID: 0.6ppm				
	9	SILTY SAND, light tan, saturated, (SM) (10YR 8/4)					
	10		8'-10' PID: 0.8ppm				
	11	SAND, light brown, saturated, fine grained, loose, (SM) (10YR 6/4)					
	12	SILTY SAND, caliche, white, dense, moist (ML) (10YR 8/2)	10'-12' PID: 1.0ppm				
	13						
	14	SILTY SAND, light tan, loose, moist, (ML) (10YR 8/4)	12'-14' PID: 0.8ppm				
	15						
	16		14'-16' PID:				
	17	SILTY CLAY, reddish brown, dense, coarse gypsum crystal intermixed, moist, (2.5YR 5/6) (ML)					
	18	End of Boring @ 18'	16'-18' PID:				
	19						
	20						

APPENDIX C
MONITORING WELL CONSTRUCTION DIAGRAMS

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU 122-DPOH / MW01
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/9/09
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Zachary Beck	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

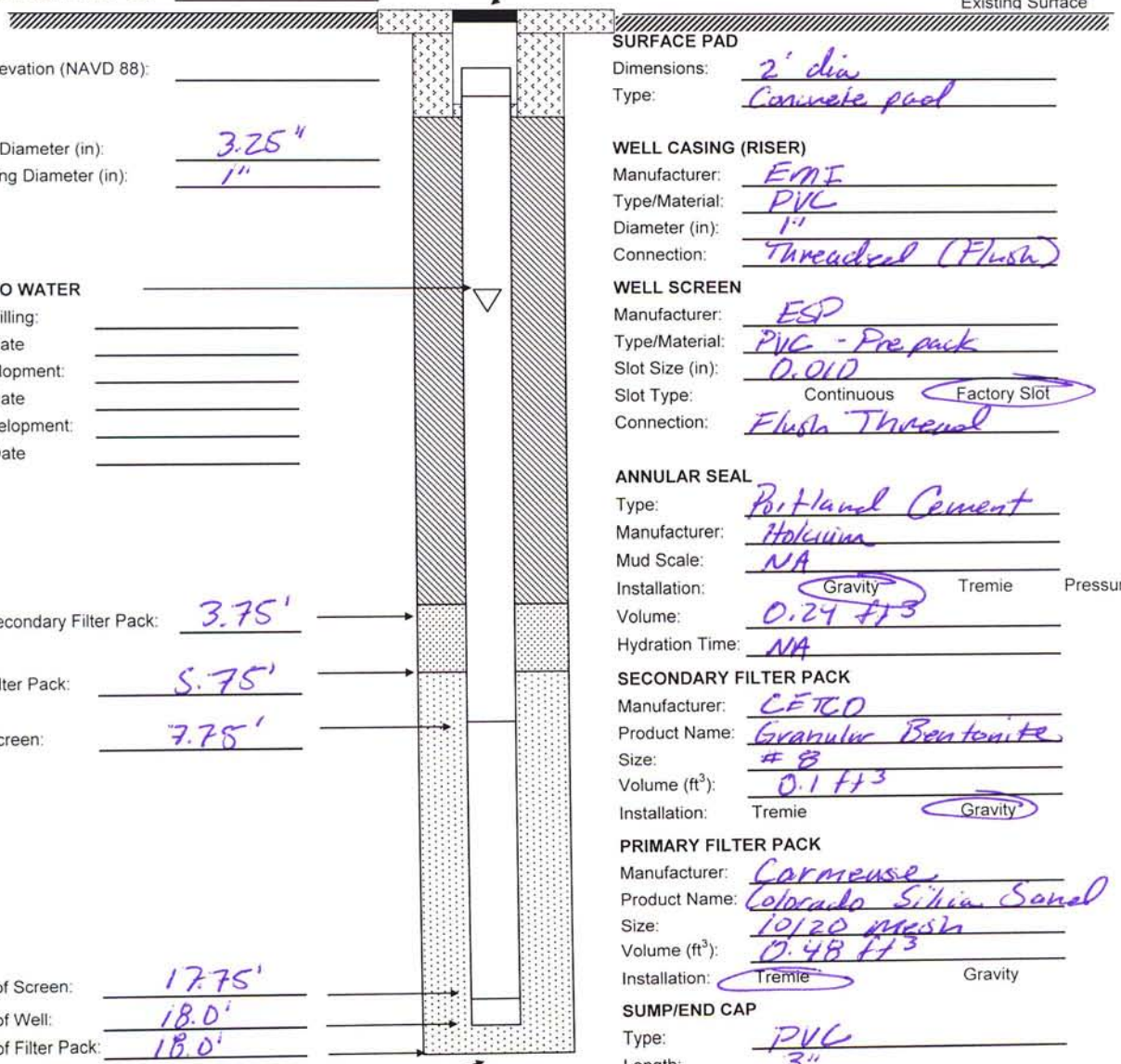
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18.0'

Bottom of Filter Pack: 18.0'

Borehole Depth: 18.0'



PROTECTIVE CASING

Type: Flush Mt.

Dimensions: 8" dia.

Length: 12" length

SURFACE PAD

Dimensions: 2' dia

Type: Concrete pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: Threaded (Flush)

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC - Pre pack

Slot Size (in): 0.010

Slot Type: Continuous (Factory Slot)

Connection: Flush Thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcim

Mud Scale: NA

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft3

Hydration Time: NA

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: #8

Volume (ft^3): 0.1 ft3

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 mesh

Volume (ft^3): 0.48 ft3

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU122-MW02
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/09/09
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Dustin McNeil	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in):

Well Casing Diameter (in):

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

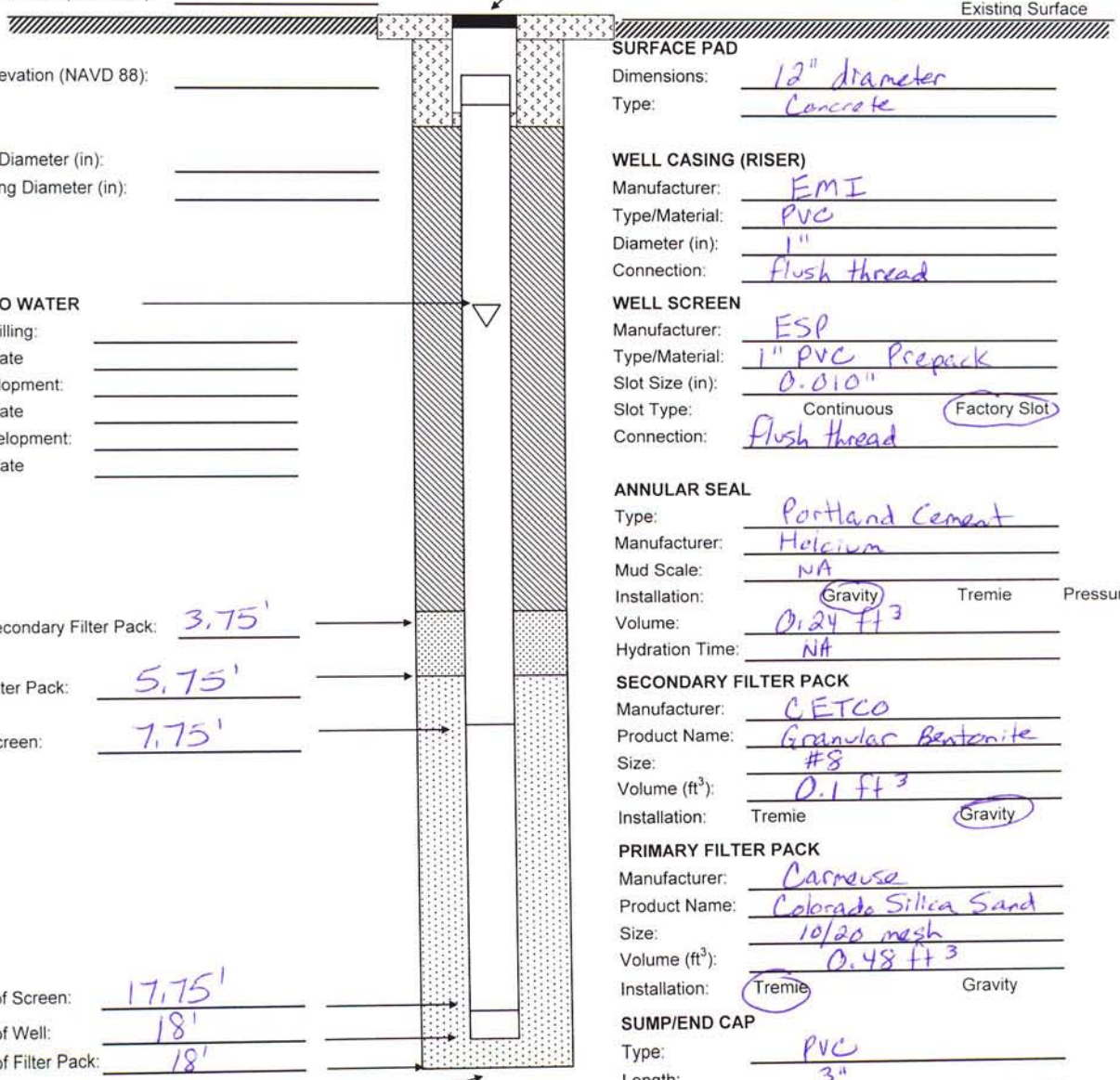
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18'

Bottom of Filter Pack: 18'

Borehole Depth: 18'



PROTECTIVE CASING

Type: Flush Mount

Dimensions: 8" diameter

Length: 12" length

SURFACE PAD

Dimensions: 12" diameter

Type: Concrete

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: flush thread

WELL SCREEN

Manufacturer: ESP

Type/Material: 1" PVC Prepack

Slot Size (in): 0.010"

Slot Type: Continuous (Factory Slot)

Connection: flush thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcium

Mud Scale: NA

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft^3

Hydration Time: NA

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: #8

Volume (ft^3): 0.1 ft^3

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 mesh

Volume (ft^3): 0.48 ft^3

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	**WELL/BORING ID:**	SWMU 122-MW03
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	**DRILLING METHOD:**	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	**DATE(S):**	7/10/09
DRILLING CONTRACTOR:	Vironex, Inc.	**SURVEYOR:**	
DRILLER:	Gene Grenier	**NORTHING (NAD 83):**	
GEOLOGIST:	Zachary Beck	**EASTING (NAD 83):**	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

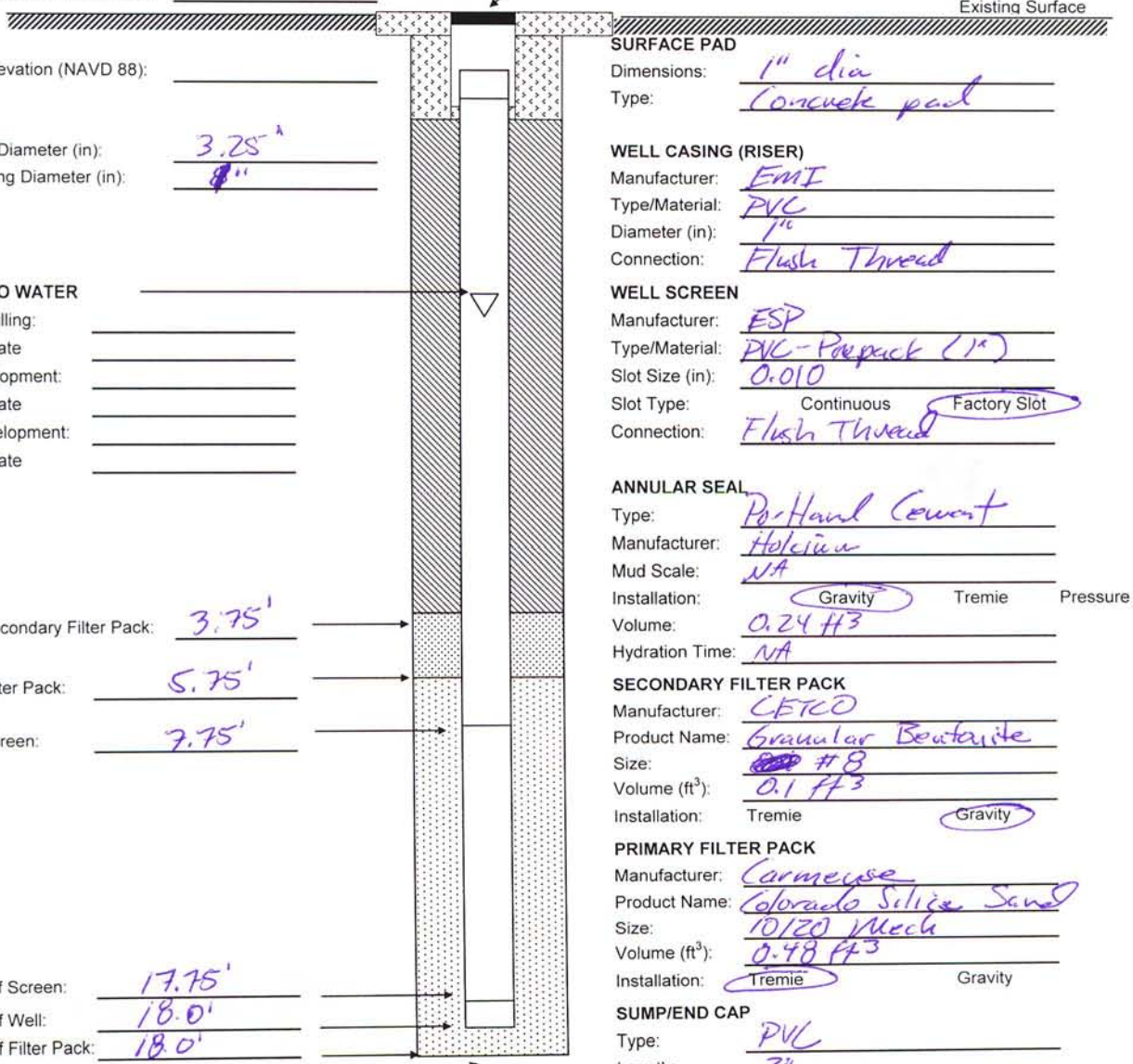
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18.0'

Bottom of Filter Pack: 18.0'

Borehole Depth: 18.0'



PROTECTIVE CASING

Type: Flush Mt.

Dimensions: 8" dia.

Length: 12" length

SURFACE PAD

Dimensions: 1" dia

Type: Concrete pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: Flush Thread

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC-Prepack (1")

Slot Size (in): 0.010

Slot Type: Continuous (Factory Slot)

Connection: Flush Thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcim

Mud Scale: NA

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft3

Hydration Time: NA

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: #8

Volume (ft^3): 0.1 ft3

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 Mesh

Volume (ft^3): 0.48 ft3

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU122-MW04
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/10/09
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Dustin McNeil	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in):

Well Casing Diameter (in):

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

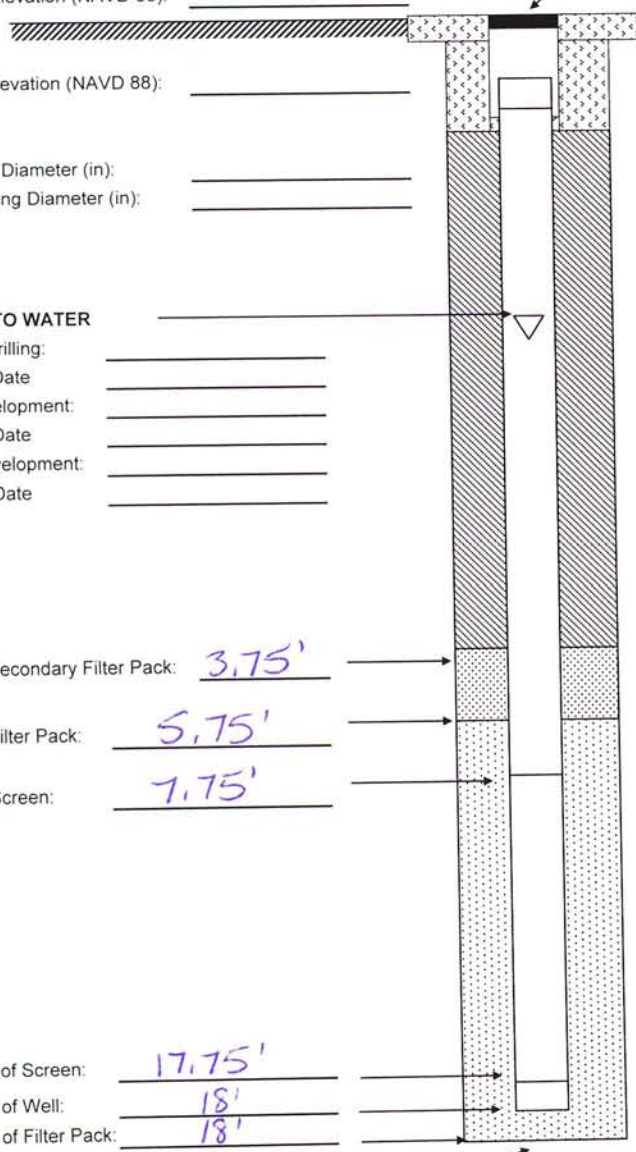
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18'

Bottom of Filter Pack: 18'

Borehole Depth: 18'



PROTECTIVE CASING

Type: Flush Mount

Dimensions: 8" diameter

Length: 12" length

Existing Surface

SURFACE PAD

Dimensions: 12" diameter

Type: concrete

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: flush thread

WELL SCREEN

Manufacturer: ESP

Type/Material: 1" PVC Prepack

Slot Size (in): 0.010"

Slot Type: Continuous (Factory Slot)

Connection: flush thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcium

Mud Scale: N/A

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft³

Hydration Time: NA

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: #8

Volume (ft³): 0.1 ft³

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 mesh

Volume (ft³): 0.48 ft³

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU 122 - MW05
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/10/09
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Zachary Beck	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

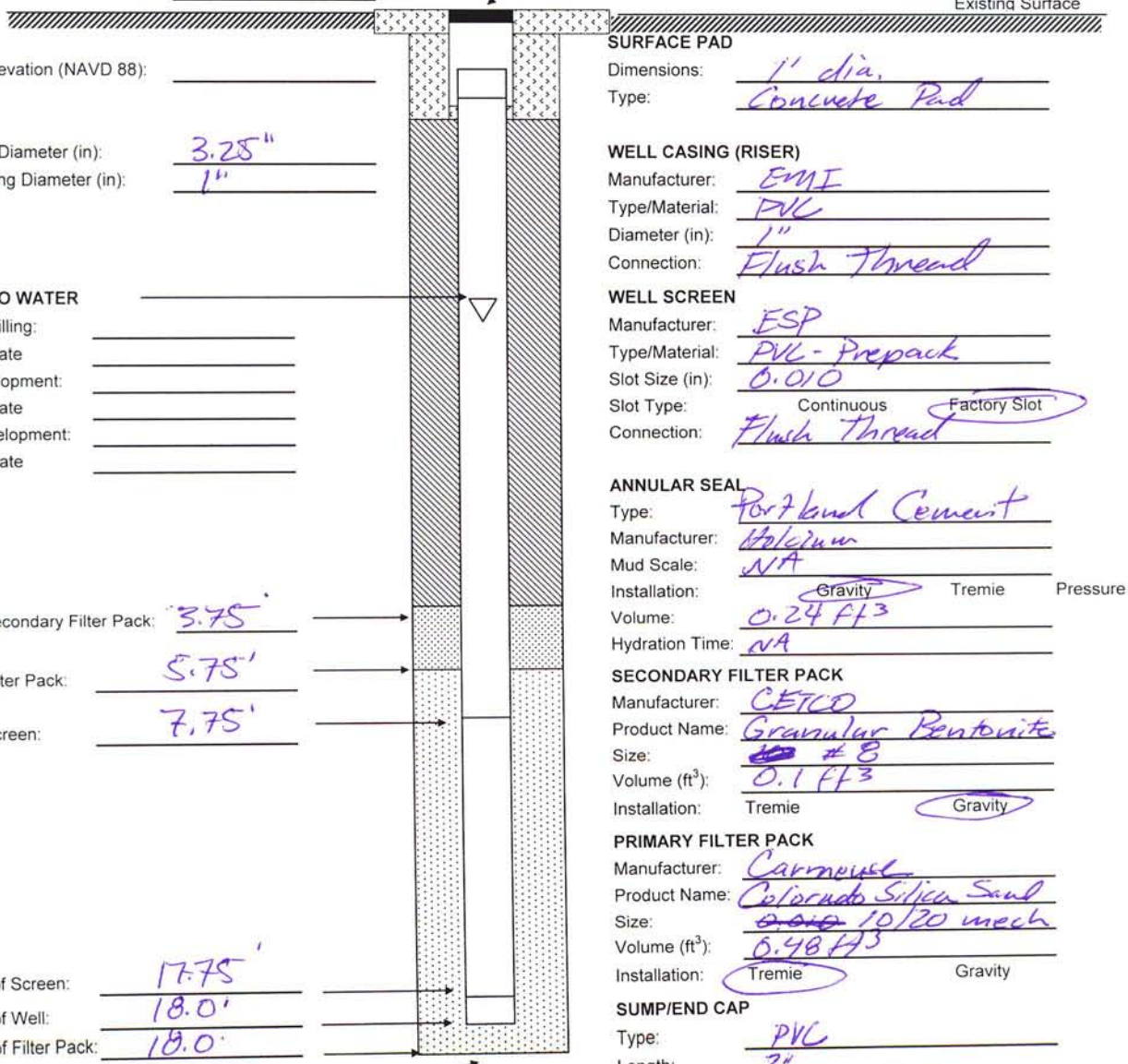
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18.0'

Bottom of Filter Pack: 18.0'

Borehole Depth: 18.0'



PROTECTIVE CASING

Type: Flush Mt.

Dimensions: 8" dia

Length: 12" length

SURFACE PAD

Dimensions: 1' dia.

Type: Concrete Pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: Flush Thread

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC - Prepack

Slot Size (in): 0.010

Slot Type: Continuous (Factory Slot)

Connection: Flush Thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcim

Mud Scale: NA

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft³

Hydration Time: NA

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: ~~10~~ #8

Volume (ft³): 0.1 ft³

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: ~~0.010~~ 10/20 mesh

Volume (ft³): 0.48 ft³

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU122-MW06
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/9/09
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Zachary Beck	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

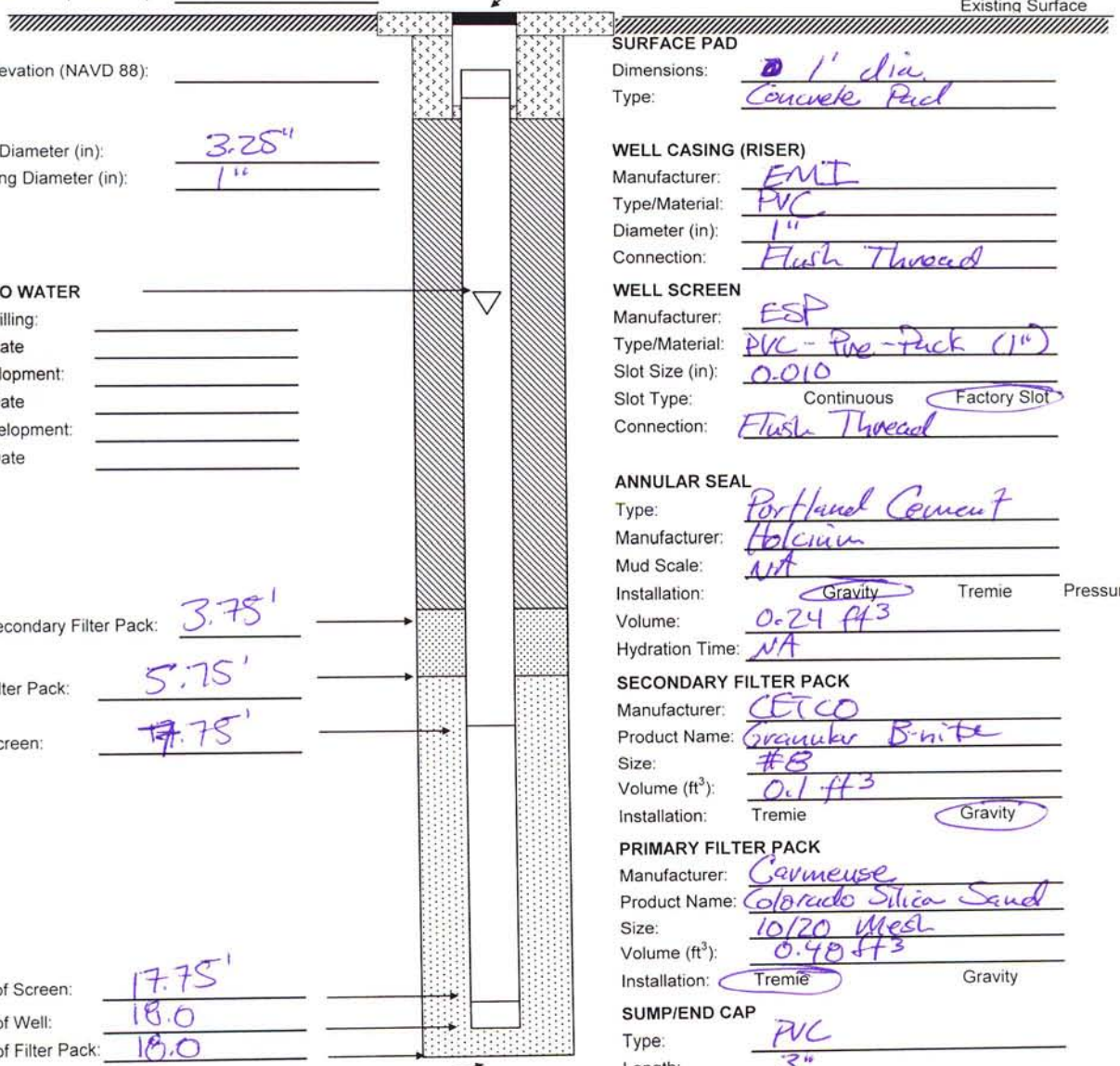
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18.0

Bottom of Filter Pack: 18.0

Borehole Depth: 18.0



PROTECTIVE CASING

Type: Flush Mt

Dimensions: 8" dia.

Length: 12" length

SURFACE PAD

Dimensions: 1' dia.

Type: Concrete Pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: Flush Thread

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC - Pre-Pack (1")

Slot Size (in): 0.010

Slot Type: Continuous (Factory Slot)

Connection: Flush Thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcim

Mud Scale: NA

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft3

Hydration Time: NA

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular B-nite

Size: #8

Volume (ft³): 0.1 ft3

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 Mesh

Volume (ft³): 0.48 ft3

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU 122-MW07
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/8/2009
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Zachary Beck	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

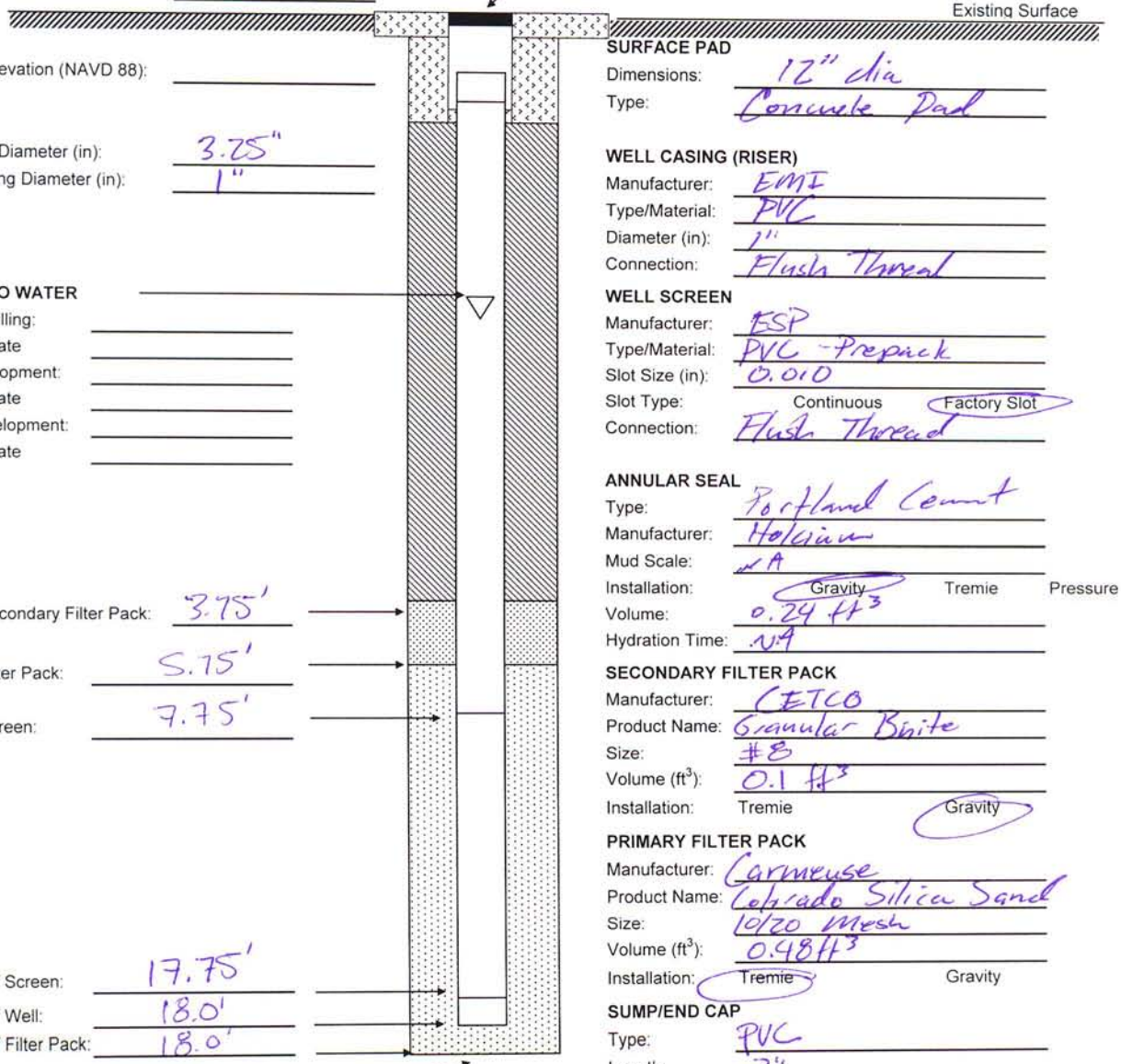
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18.0'

Bottom of Filter Pack: 18.0'

Borehole Depth: 18.0'



PROTECTIVE CASING

Type: Flush Mt.

Dimensions: 8" dia

Length: 12" length

SURFACE PAD

Dimensions: 12" dia

Type: Concrete Pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: Flush Thread

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC - Prepack

Slot Size (in): 0.010

Slot Type: Continuous (Factory Slot)

Connection: Flush Thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcim

Mud Scale: NA

Installation: (Gravity) Tremie Pressure

Volume: 0.29 ft³

Hydration Time: NA

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentite

Size: #8

Volume (ft³): 0.1 ft³

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 Mesh

Volume (ft³): 0.48 ft³

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU 122 - MW08
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/8/2009
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Zachary Beck	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

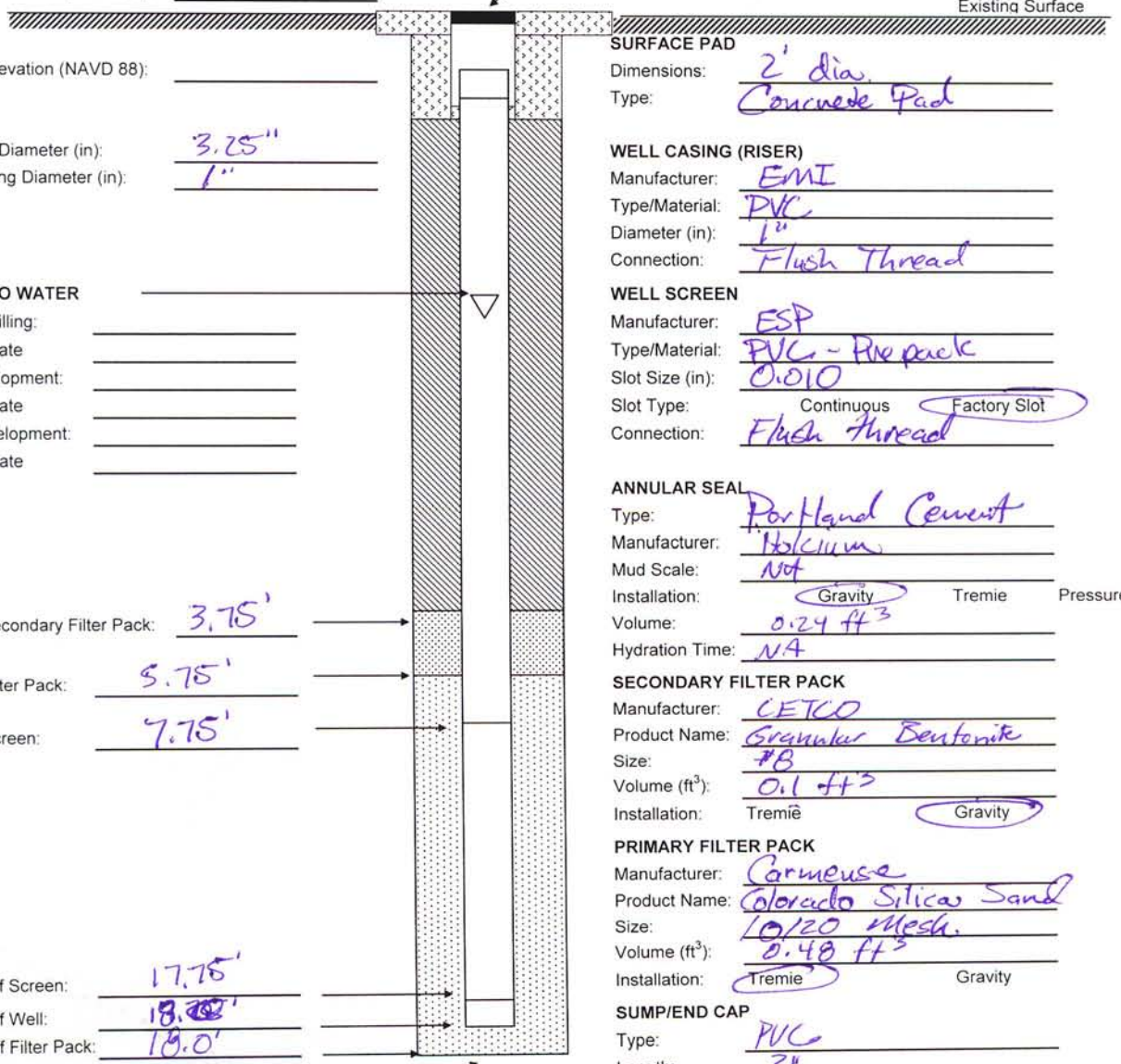
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18.0'

Bottom of Filter Pack: 19.0'

Borehole Depth: 18.0'



PROTECTIVE CASING

Type: Flush mt

Dimensions: 8" dia.

Length: 12" length

SURFACE PAD

Dimensions: 2' dia.

Type: Concrete Pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: Flush Thread

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC - Pre pack

Slot Size (in): 0.010

Slot Type: Continuous (Factory Slot)

Connection: Flush thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcim

Mud Scale: Not

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft³

Hydration Time: N/A

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: #8

Volume (ft³): 0.1 ft³

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 Mesh.

Volume (ft³): 0.48 ft³

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU122-MW09
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/08/09
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Dustin McNeil	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25'

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

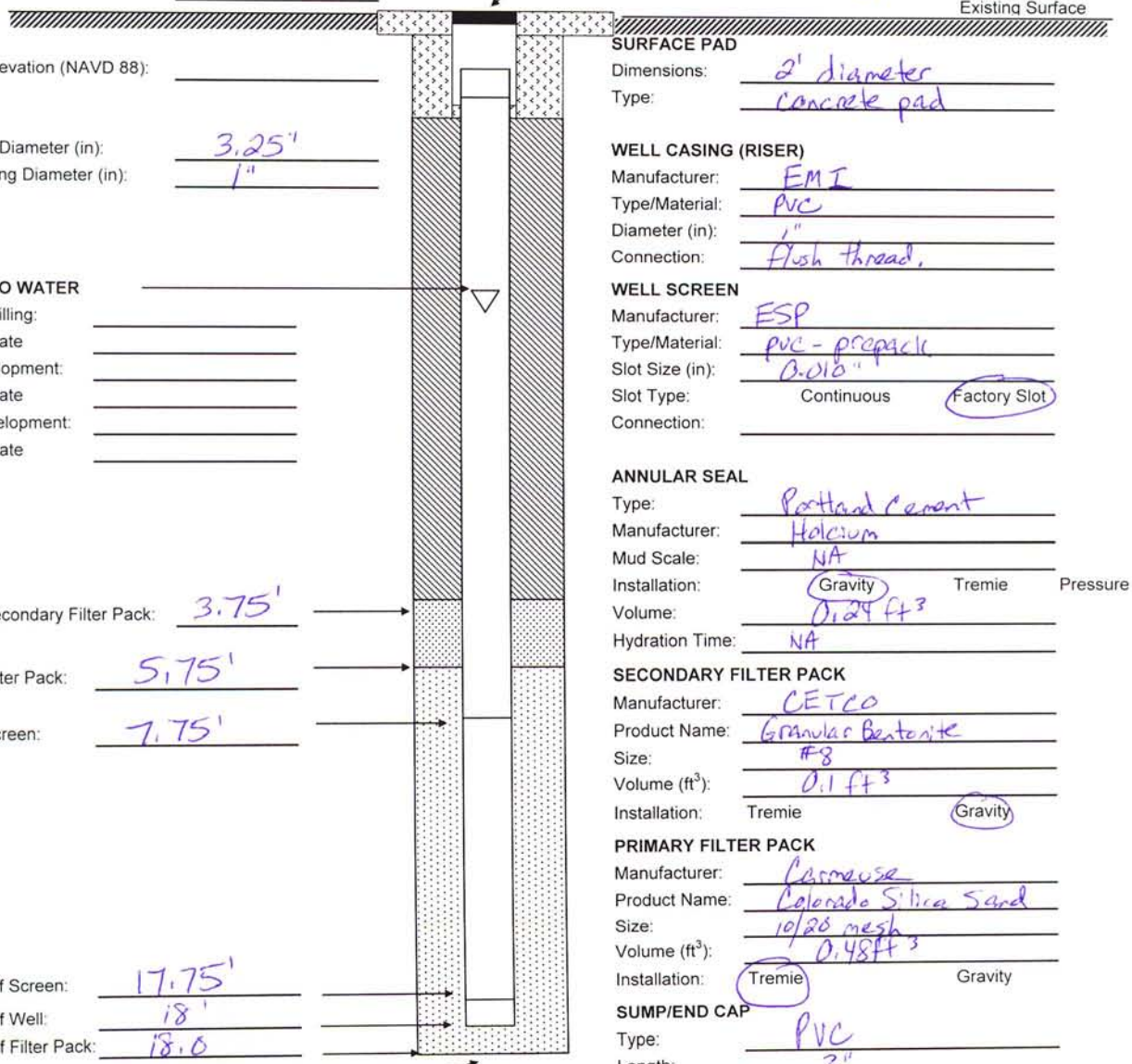
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18'

Bottom of Filter Pack: 18.0

Borehole Depth: 18.0



PROTECTIVE CASING

Type: Flush Mount

Dimensions: 8" diameter

Length: 12" length

SURFACE PAD

Dimensions: 2' diameter

Type: concrete pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: flush thread.

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC - prepack

Slot Size (in): 0.010"

Slot Type: Continuous (Factory Slot)

Connection:

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcium

Mud Scale: NA

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft³

Hydration Time: NA

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: #8

Volume (ft³): 0.1 ft³

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 mesh

Volume (ft³): 0.48 ft³

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	**WELL/BORING ID:**	SWMU 122-MW10
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	**DRILLING METHOD:**	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	**DATE(S):**	7/07/09
DRILLING CONTRACTOR:	Vironex, Inc.	**SURVEYOR:**	
DRILLER:	Gene Grenier	**NORTHING (NAD 83):**	
GEOLOGIST:	Dustin McNew	**EASTING (NAD 83):**	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 4'9"

Top of Filter Pack: 6'9"

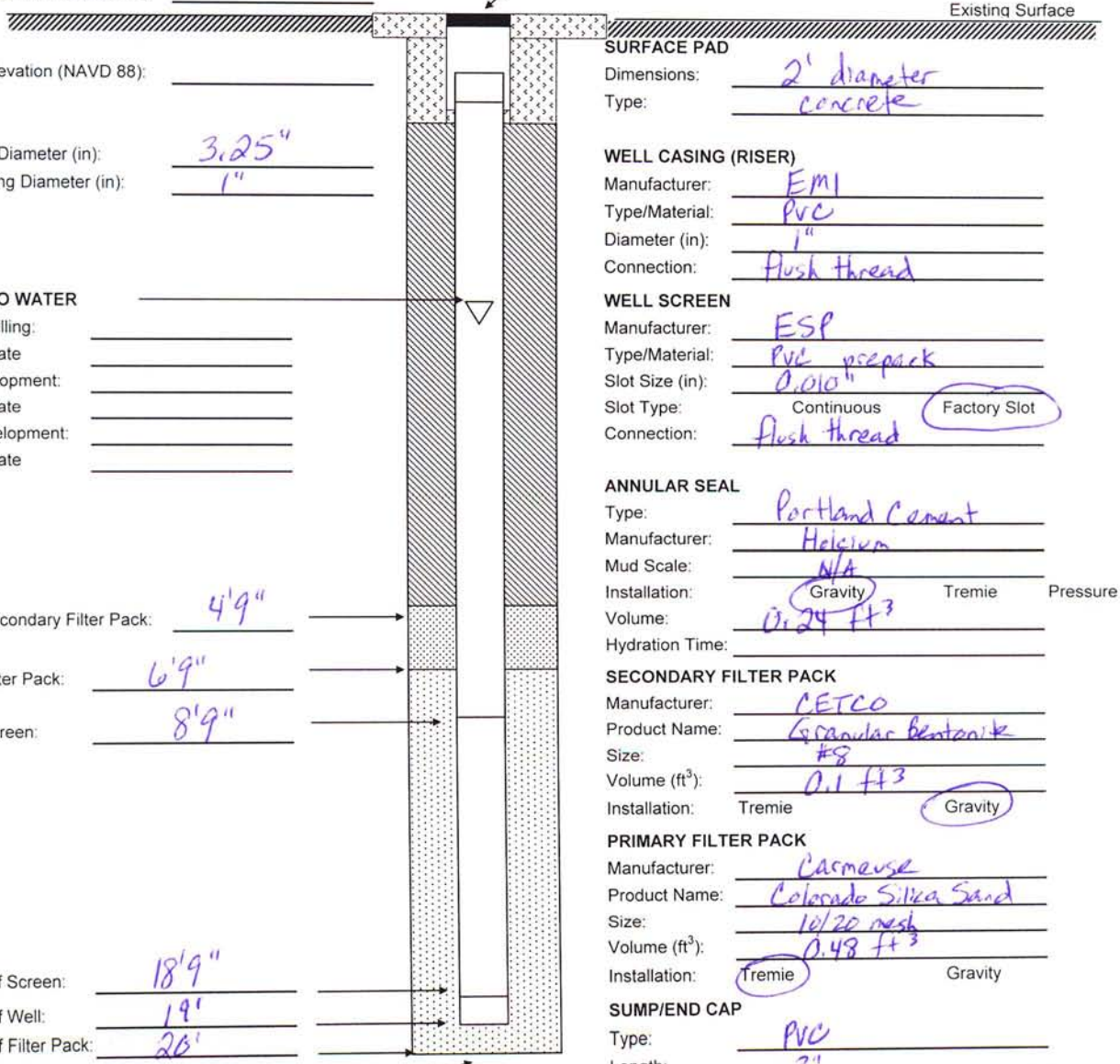
Top of Screen: 8'9"

Bottom of Screen: 18'9"

Bottom of Well: 19'

Bottom of Filter Pack: 20'

Borehole Depth: 20'



PROTECTIVE CASING

Type:

Dimensions:

Length:

SURFACE PAD

Dimensions: 2' diameter

Type: concrete

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: PVC

Diameter (in): 1"

Connection: flush thread

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC prepack

Slot Size (in): 0.010"

Slot Type: Continuous (Factory Slot)

Connection: flush thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Heisleum

Mud Scale: N/A

Installation: (Gravity) Tremie Pressure

Volume: 0.24 ft³

Hydration Time:

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: #8

Volume (ft³): 0.1 ft³

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 mesh

Volume (ft³): 0.48 ft³

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: N/A

Volume: N/A

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	**WELL/BORING ID:**	SWMU 122 - MW11
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	**DRILLING METHOD:**	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	**DATE(S):**	7/7/09
DRILLING CONTRACTOR:	Vironex, Inc.	**SURVEYOR:**	
DRILLER:	Gene Grenier	**NORTHING (NAD 83):**	
GEOLOGIST:	Zachary Beck	**EASTING (NAD 83):**	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

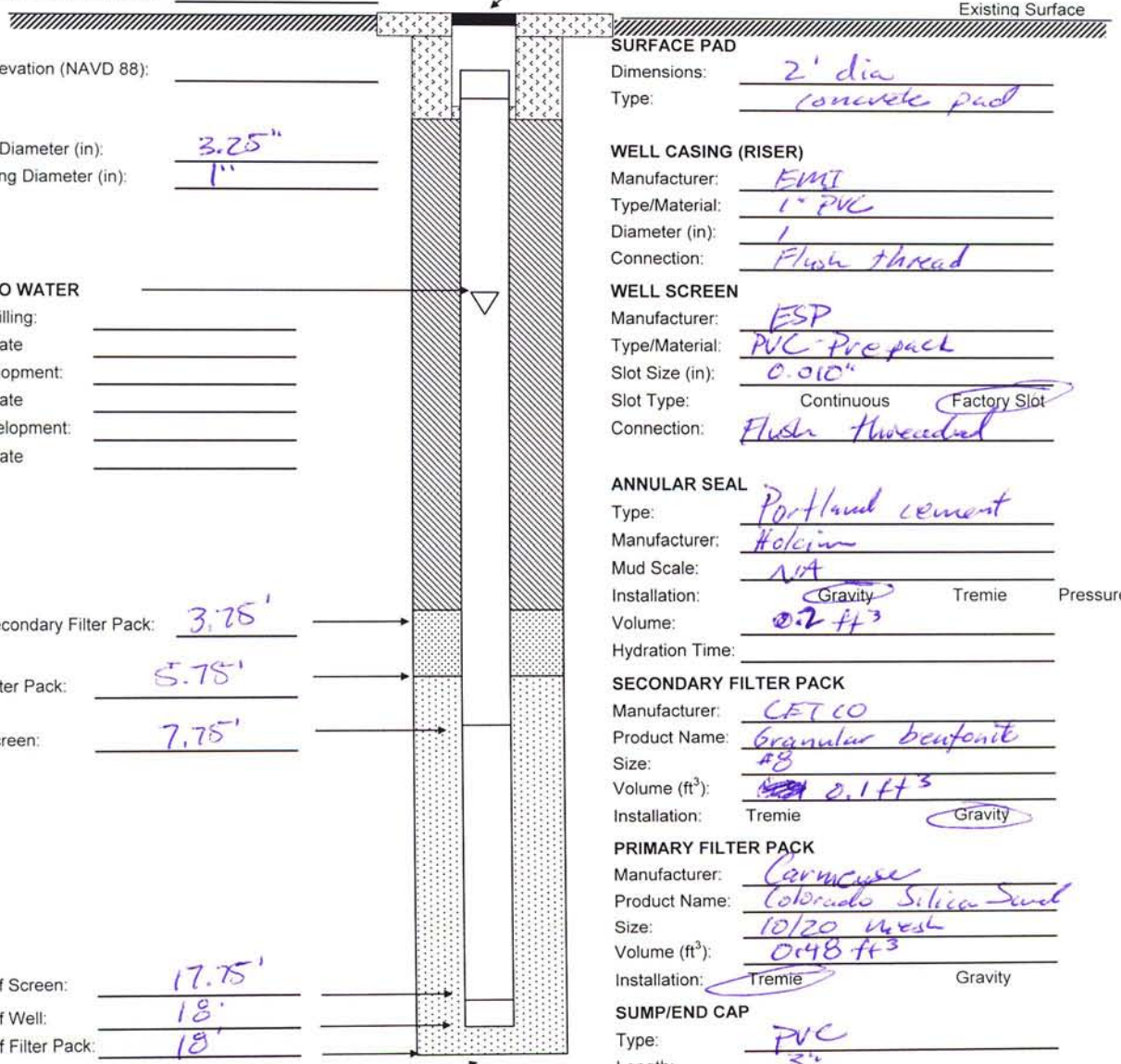
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18'

Bottom of Filter Pack: 18'

Borehole Depth: 18' bgs



PROTECTIVE CASING

Type: Flush mt

Dimensions: 8" diameter

Length: 12" length

SURFACE PAD

Dimensions: 2' dia

Type: concrete pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: 1" PVC

Diameter (in): 1

Connection: Flush thread

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC Prepack

Slot Size (in): 0.010"

Slot Type: Continuous (Factory Slot)

Connection: Flush threaded

ANNULAR SEAL

Type: Portland cement

Manufacturer: Holcim

Mud Scale: NA

Installation: (Gravity) Tremie Pressure

Volume: 0.2 ft³

Hydration Time:

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular bentonite

Size: #8

Volume (ft³): 0.1 ft³

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 mesh

Volume (ft³): 0.48 ft³

Installation: (Tremie) Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: NA

Comments:

NATIONVIEW

WELL CONSTRUCTION DIAGRAM (Flush Mount)

SITE:	SWMUs 122 and 123	WELL/BORING ID:	SWMU 122-MW12
PROJECT NAME:	Holloman AFB - RCRA Facility Investigation	DRILLING METHOD:	Direct Push Technology
PROJECT NO./PHASE:	8080014/02.020	DATE(S):	7/07/09
DRILLING CONTRACTOR:	Vironex, Inc.	SURVEYOR:	
DRILLER:	Gene Grenier	NORTHING (NAD 83):	
GEOLOGIST:	Dustin McNeil	EASTING (NAD 83):	

NOT TO SCALE

Surface Elevation (NAVD 88):

Casing Elevation (NAVD 88):

Borehole Diameter (in): 3.25"

Well Casing Diameter (in): 1"

DEPTH TO WATER

During Drilling:

Date

Pre Development:

Date

Post Development:

Date

Top of Secondary Filter Pack: 3.75'

Top of Filter Pack: 5.75'

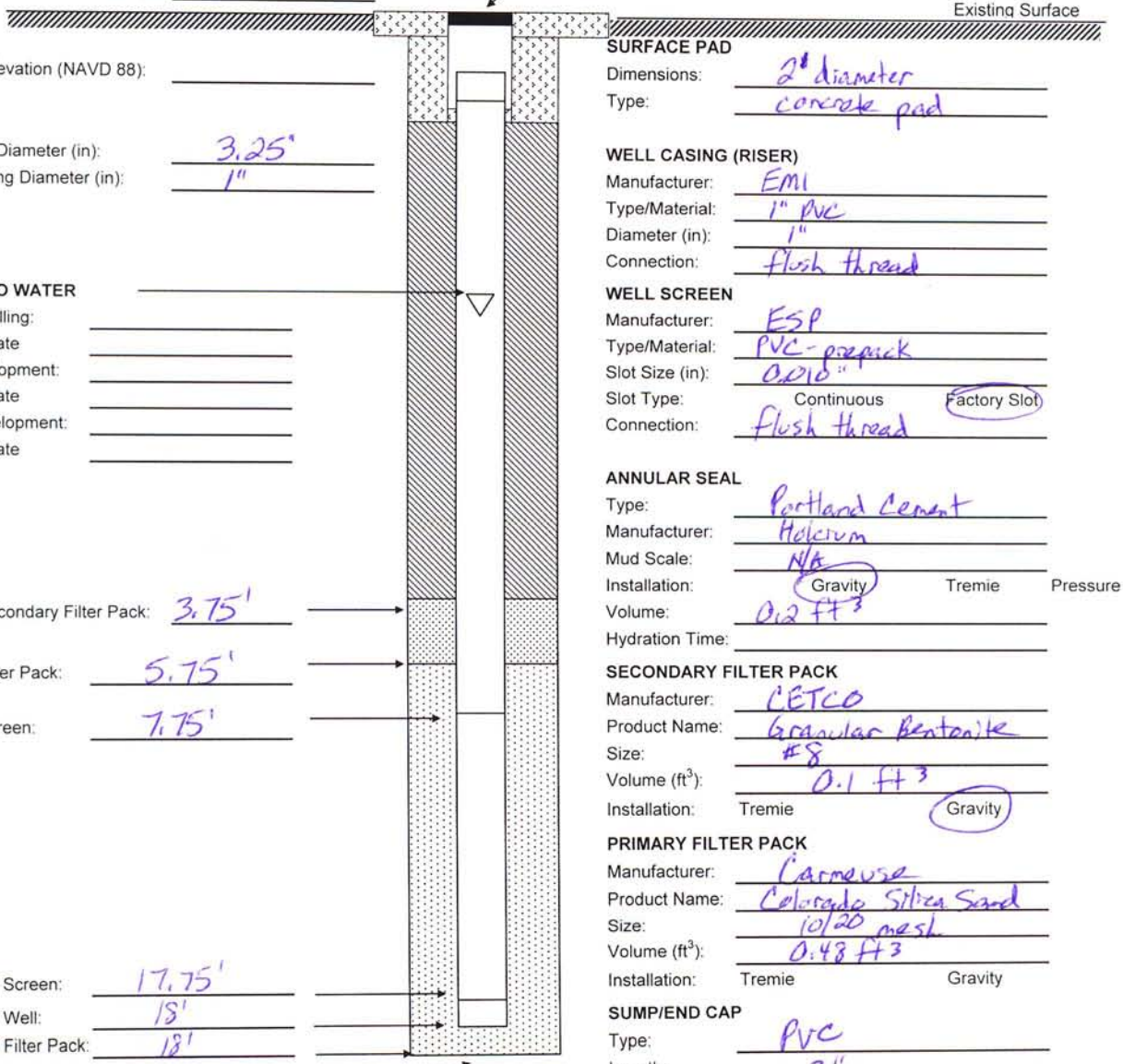
Top of Screen: 7.75'

Bottom of Screen: 17.75'

Bottom of Well: 18'

Bottom of Filter Pack: 18'

Borehole Depth: 18' bgs



PROTECTIVE CASING

Type: Flush Mount

Dimensions: 8" diameter

Length: 12" length

SURFACE PAD

Dimensions: 2' diameter

Type: concrete pad

WELL CASING (RISER)

Manufacturer: EMI

Type/Material: 1" PVC

Diameter (in): 1"

Connection: flush thread

WELL SCREEN

Manufacturer: ESP

Type/Material: PVC-prepack

Slot Size (in): 0.010"

Slot Type: Continuous (Factory Slot)

Connection: flush thread

ANNULAR SEAL

Type: Portland Cement

Manufacturer: Holcium

Mud Scale: N/A

Installation: (Gravity) Tremie Pressure

Volume: 0.2 ft³

Hydration Time:

SECONDARY FILTER PACK

Manufacturer: CETCO

Product Name: Granular Bentonite

Size: #8

Volume (ft³): 0.1 ft³

Installation: Tremie (Gravity)

PRIMARY FILTER PACK

Manufacturer: Carmeuse

Product Name: Colorado Silica Sand

Size: 10/20 mesh

Volume (ft³): 0.48 ft³

Installation: Tremie Gravity

SUMP/END CAP

Type: PVC

Length: 3"

BACKFILL MATERIAL

Type: NA

Volume: N/A

Comments:

APPENDIX D
MONITORING WELL DEVELOPMENT FORMS

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122-MW01	Date: 7/10/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: –
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: –	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.75	Casing: Type PVC Diam. (in) 1	Weather: Clear 900
	(B) Total Well Depth (ft BTOC): 18.71	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): –
	(C) Water Column Thickness (ft) (B-A): 7.96	Screen Length (lin ft): 10	Breathing Zone PID (ppm): –
	(D) Well Volume (gal) (C x E): 0.32	Screen Info: Type: Slotted / Prepack Size: 1	Well Opening PID (ppm): –

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071009	1100	10.75	0	300	24.66	7.31	4.25	0.08	+1000	-97	Turbid / No Odor
	1110	13.04*	3000	300	23.82	7.22	4.10	0.04	+1000	-85	" "
	1120	13.75	6000	300	23.24	7.22	4.04	0.03	486	-88	" "
	1130	13.76	9000	300	23.77	7.22	4.05	0.03	87.5	-111	Clearing
	1140	13.76	12000	300	24.23	7.25	4.07	0.03	31.2	-122	" "
	1150	13.76	15000	300	24.02	7.24	4.04	0.03	19.1	-129	Clear / No Odor
	1200	13.76	18000	300	24.06	7.23	4.07	0.03	13.9	-127	" "
	1210	13.76	21000	300	24.06	7.23	4.06	0.03	18.6	-128	" "
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.6 gal
* Water level dropped considerably.

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: **SWMUs 122 and 123**	Location ID: SWMU 122- MW 02	Date: 7/10/09
	Project Name: **RCRA Facility Investigation**	Project No./Phase: **8080014/02.020**	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: –
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: **Liquinox**
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: –	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.00	Casing: Type **PVC** Diam. (in) 1	Weather: Hot 100°
	(B) Total Well Depth (ft BTOC): 17.92	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): –
	(C) Water Column Thickness (ft) (B-A): 7.92	Screen Length (lin ft): 10	Breathing Zone PID (ppm): –
	(D) Well Volume (gal) (C x E): 0.32	Screen Info: Type: Slotted / Prepack Size: 1	Well Opening PID (ppm): –

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071009	1530	10.00	0	300	26.99	7.09	5.17	0.21	>1000	-57	Turbid / No Odor
	1540	10.07	3000	300	25.52	7.03	4.87	0.11	252	-72.8	Clearing
	1550	10.07	6000	300	25.42	6.96	4.80	0.08	5.45	-71.4	" "
	1600	10.07	9000	300	25.35	6.96	4.81	0.07	5.42	-70.0	Clear / No odor
	1610	10.07	12000	300	25.37	6.96	4.79	0.07	5.39	-68.5	" "
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.58

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW03	Date: 7-13-09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: —	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 9.62	Casing: Type PVC Diam. (in) 1	Weather: Clear 80°
	(B) Total Well Depth (ft BTOC): 18.42	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 8.8	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 0.35	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): —

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071309	0805	9.62	0	300	24.43	7.34	2.80	2.97	+1000	-70	Cloudy / No Odor
	0815	12.60*	3000	300	24.29	7.16	3.62	0.55	539	-118	Clearing
	0825	13.00	6000	300	24.33	7.14	3.58	0.23	126	-123	" "
	0835	12.90	9000	200	24.36	7.13	3.58	0.06	11.3	-138	Clear / No Odor
	0845	12.85	11000	200	24.40	7.12	3.58	0.05	11.0	-159	" "
	0855	12.85	13000	200	24.42	7.12	3.58	0.05	10.8	-160	" "
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.76 gal
* Water level drop +/- 3.00'

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW04	Date: 7-13-09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: —	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 9.69	Casing: Type PVC Diam. (in) 1	Weather: Clear 85°
	(B) Total Well Depth (ft BTOC): 17.54	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 7.85	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): .31	Screen Info: Type: Slotted / Prepack Size: 1	Well Opening PID (ppm): —

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
07/13 09	0915	9.69	0	300	25.14	7.55	5.34	1.88	+1000	-188	Cloudy / No Odor
	0925	13.70*	3000	200	24.81	7.43	5.08	1.20	+1000	-157	" "
	0935	13.60	5000	200	25.17	7.42	5.32	1.27	+1000	-133	" "
	0945	13.70	7000	200	25.18	7.41	5.27	1.39	+1000	-103.5	" "
	0955	13.70	9000	200	25.13	7.39	5.09	0.64	+1000	-115	" "
	1005	13.70	11000	200	25.24	7.41	5.24	0.55	309	-116	Clearing
	1015	13.70	13000	200	25.30	7.39	5.22	0.15	75	-114	" "
	1025	13.70	15000	200	25.45	7.39	5.20	0.16	22	-113	Clear / No Odor
	1035	13.70	17000	200	25.51	7.38	5.20	0.13	20	-113	" "
	1045	13.70	19000	200	25.54	7.38	5.20	0.12	19	-113	" "
	1055	13.70	21000	200	25.52	7.38	5.20	0.13	18	-113	" "
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.57 gal
* Substantial water level drop; slowing pump rate.

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW05	Date: 7-13-09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: –
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: –	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.27	Casing: Type PVC Diam. (in) 1	Weather: Clear 87°F
	(B) Total Well Depth (ft BTOC): 18.28	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): –
	(C) Water Column Thickness (ft) (B-A): 8.01	Screen Length (lin ft): 10	Breathing Zone PID (ppm): –
	(D) Well Volume (gal) (C x E): .32	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): –

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071309	1105	10.27	0	250	26.11	7.13	6.69	0.17	+1000	-121	Cloudy / No Odor
	1115	16.90*	2500	100	26.37	7.19	6.85	0.11	+1000	-97.3	" "
	1125	16.12	3500	100	27.07	7.21	7.07	0.11	+1000	-97	" "
	1135	17.50	4500	100	28.64	7.23	7.46	0.12	+1000	-76	" "
	1145	17.90	5500	50	30.38	7.26	7.78	0.12	+1000	-59	" "
	1155			WELL DRY							
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.6 gal
* water level dropped more than 6"; slowing pumping rate to 100 mL/m.
↳ Due to poor recharge rate, well will be bailed when sampled on 7/14/09, parameters can't be taken

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW06	Date: 7/10/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: —	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 9.83	Casing: Type PVC Diam. (in) 1	Weather: Hot 1000
	(B) Total Well Depth (ft BTOC): 18.29	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 8.46	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 0.34	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): —

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
07/10 09	1415	9.83	0	300	27.96	7.40	8.18	2.15	727	-63.2	Cloudy / No Odor
	1425	11.70*	3000	300	26.40	7.30	8.09	2.12	11.1	-40.7	Clearing
	1435	11.58	6000	300	27.19	7.29	8.21	1.33	3.01	-33.8	Clear / No Odor
	1445	11.58	9000	300	27.26	7.30	8.23	0.64	1.54	-29.5	" "
	1455	11.58	12000	300	27.18	7.29	8.13	0.46	1.00	-26.2	" "
	1505	11.58	15000	300	27.21	7.30	8.13	0.46	1.00	-26.0	" "
	1515	11.58	18000	300	27.15	7.29	8.15	0.45	0.91	-25.6	" "
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.69 gal
* water level dropped substantially.

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122-MW07	Date: 7/10/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Peristaltic Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: —	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 9.86	Casing: Type PVC Diam. (in) 1	Weather: Clear 85°
	(B) Total Well Depth (ft BTOC): 18.21	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 8.35	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 0.33	Screen Info: Type: Slotted/Prepak Size: 1	Well Opening PID (ppm): —

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
07/10 09	0755	9.86	0	200	25.11	7.42	5.39	0.07	348	-18	Cloudy / No Odor
	0805	12.70	2000	200	24.73	7.13	5.31	0.06	60.2	-32	Clearing
	0815	14.00*	4000	100	24.57	7.15	5.13	0.05	44.3	-30	" "
	0825	14.78	5000	100	24.79	7.20	5.11	0.05	36.9	-33	" "
	0835	15.46	6000	50	24.83	7.35	5.19	0.05	21.0	-43	" "
	0845	15.87	6500	50	25.01	7.36	5.26	0.05	17.9	-47	" "
	0855	16.30	7000	50	25.06	7.36	5.29	0.05	18.0	-45	" "
	0905	16.56	7500	50	25.10	7.36	5.30	0.05	18.2	-47	Clear / No Odor
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.67 gal
* Water Level dropped substantially; slowing pump rate to 100 mL/m. Poor recharge rate

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW08	Date: 7/9/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: –
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.9	Casing: Type PVC Diam. (in) 1	Weather: Overcast 90°
	(B) Total Well Depth (ft BTOC): 18.64	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): –
	(C) Water Column Thickness (ft) (B-A): 7.74	Screen Length (lin ft): 10	Breathing Zone PID (ppm): –
	(D) Well Volume (gal) (C x E): 0.31	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): –

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
070909	1600	10.90	0	200	26.73	7.26	5.84	0.10	76.2	-41	Slightly Cloudy/No Odor
	1610	13.08	2000	200	26.98	7.25	5.79	0.09	22.4	-39.4	Clearing/No Odor
	1620	13.30	4000	200	27.10	7.29	5.86	0.09	5.04	-34	Clear/No Odor
	1630	13.30	6000	200	26.75	7.33	5.83	0.09	3.39	-30.7	" "
	1640	13.30	8000	200	27.18	7.34	5.84	0.09	3.02	-28	" "
	1650	13.30	10000	200	27.12	7.33	5.84	0.09	2.97	-27.3	" "
	1700	13.30	12000	200	27.10	7.34	5.82	0.09	2.95	-26.6	" "
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well Volumes = 1.55 gal

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW09	Date: 7/9/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: —	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 11.50	Casing: Type PVC Diam. (in) 1	Weather: Overcast 95°
	(B) Total Well Depth (ft BTOC): 18.45	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 6.95	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 0.28	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): —

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
070909	1430	11.50	0	200	24.71	7.23	9.50	0.14	+1000	-80	Cloudy / No Odor
	1440	13.19	2000	200	24.13	7.21	9.24	0.11	+1000	-200	Cloudy / Moderate Odor
	1450	13.21	4000	200	24.03	7.23	9.29	0.10	+1000	-200	" "
	1500	13.25	6000	200	23.83	7.24	9.29	0.11	612	-180	" "
	1510	13.28	8000	200	23.74	7.23	9.28	0.12	193	-165	Clearing / Mod. Odor
	1520	13.26	10000	200	23.63	7.22	9.25	0.12	20	-150	" "
	1530	13.26	12000	200	23.70	7.22	9.27	0.12	19.6	-140	Clear / Mod. Odor
	1540	13.26	14000	200	23.69	7.22	9.26	0.12	19.2	-140	" "
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.39 gal

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: **SWMUs 122 and 123**	Location ID: SWMU 122- MW10	Date: 7/8/09
	Project Name: **RCRA Facility Investigation**	Project No./Phase: **8080014/02.020**	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: **Liquinox**
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 7	Casing: Type **PVC** Diam. (in) 1	Weather: Clear 100°
	(B) Total Well Depth (ft BTOC): 18.6	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 11.6	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): .46	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): —

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
070809	1155	7.0	0	200	24.47	7.6	2.37	0.13	+1000	-75	Cloudy / No Odor
	1205	7.47	2000	200	23.87	7.6	2.31	0.10	+1000	-98	Clearing
	1215	7.72	4000	400 *	23.29	7.59	2.26	0.07	49.5	-133	" "
	1225	7.71	10000	400	23.11	7.60	2.24	0.07	11.2	-141	Clear / No Odor
	1235	7.71	14000	400	23.18	7.60	2.24	0.06	6.18	-127.5	" "
	1245	7.71	18000	400	23.00	7.60	2.23	0.06	4.29	-123	" "
	1255	7.71	22000	400	22.99	7.60	2.23	0.06	4.20	-122.9	" "
	1305	7.71	26000	400	22.97	7.60	2.23	0.06	4.19	-122.6	" "
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 2.3 gal
* Changed pumping rate

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW11	Date: 7/8/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#: —	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.64	Casing: Type PVC Diam. (in) 1	Weather: Hot 103°
	(B) Total Well Depth (ft BTOC): 18.75	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 8.11	Screen Length (lin ft): 10'	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 0.32	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): —

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
07 08 09	1325	10.64	0	400	23.37	7.45	7.16	0.31	36.3	23	Clear / No odor
	1335	18.42	4000	400	23.87	7.46	7.93	0.31	27.6	15.6	" "
	1345	18.50	6000	200	27.63	7.54	8.46	0.29	21.2	11.4	" "
				Well DRY - recharge rate > 1"/hour							
				will Bail Tomorrow							
DEVELOPMENT CRITERIA											
+/- 10% unless otherwise noted					+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		

COMMENTS: 5 well volumes = 1.62 gal
* Slowed pump rate due to drastic drop in water level, near the point of pumping dry.

MONITORING WELL DEVELOPMENT FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW12	Date: 7/8/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Polyethylene	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 11.90	Casing: Type PVC Diam. (in) 1	Weather: Hot 103°
	(B) Total Well Depth (ft BTOC): 19.15	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 7.25	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 0.29	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): —

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
070809	1450	11.90	0	25	30.43	7.65	18.23	0.38	69.9	-117	Slightly Cloudy/No Odor
	1500	14.20*	250	25	30.79	7.59	18.42	0.39	43.5	-116	Clearing
	1510	13.90	500	60	29.30	7.95	18.09	0.42	38.4	-105	" "
	1520	14.15	1100	60	26.74	8.37	16.55	0.49	6.80	-64	" "
	1530										
				WELL DRY - ALLOWING RECHARGE							
				SLOW RECHARGE - BAIL TOMORROW							

DEVELOPMENT CRITERIA										
+/- 10% unless otherwise noted				+/- 10%	+/- 10%	+/- 10%	+/- 10%	+/- 10%		-

COMMENTS: 5 well volumes = 1.45 gal
*At slow pump rate (25mL/m) water level dropped substantially.

APPENDIX E
MONITORING WELL SAMPLE COLLECTION FORMS

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122 - MW01	Date: 7-13-09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: –
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: –	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.76	Casing Type: PVC Diam. (in) 1	Weather: Hot. 100°
	(B) Total Well Depth (ft BTOC): 18.71	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): –
	(C) Water Column Thickness (ft) (B-A): 7.95	Screen Length (lin ft): 10	Breathing Zone PID (ppm): –
	(D) Well Volume (gal) (C x E): 0.32	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): –

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
07/13/09	1450	10.76	0	100	24.98	7.32	4.32	0.11	614	-149	Cloudy / No Odor
	1500	13.00	1000	100	23.32	7.12	4.01	0.06	28.5	-101.8	Clearing
	1510	13.22	2000	100	23.37	7.13	4.01	0.04	8.22	-104.5	Clear / No Odor
	1520	13.25	3000	100	23.43	7.16	4.01	0.04	8.19	-116.5	" "
	1530	13.22	4000	100	23.42	7.17	4.01	0.04	8.17	-118.6	" "

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Sample Time

1535

Sample Identification

SWMU 122 - MW01

3 well volumes = 0.96 gal

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122 - MW02		Date: 7-14-09	
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020		Recorded By: CM	
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI		PID Type/ID#: —	
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity		Decon Method: Liquinox	
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#:		PPE Level: (D) C B A	
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.00	Casing Type: PVC	Diam. (in) 1	Weather: Hot 100°	
	(B) Total Well Depth (ft BTOC): 17.92	(E) Casing Volume Multiplier (gal/lin ft): 0.04		Background PID (ppm): —	
	(C) Water Column Thickness (ft) (B-A): 7.92	Screen Length (lin ft): 10		Breathing Zone PID (ppm): —	
	(D) Well Volume (gal) (C x E): .31	Screen Info: Type: Slotted / Filpack	Size: 1	Well Opening PID (ppm): —	

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071409	0800	10.00	0	150	24.80	7.06	4.96	0.08	266	-50.8	Slightly Cloudy / No Odor
	0810	10.04	1500	150	24.33	6.96	4.79	0.06	14.9	-47	Clear / No Odor
	0820	10.04	3000	150	24.28	6.95	4.75	0.06	5.23	-44	" "
	0830	10.04	4500	150	24.17	6.93	4.72	0.06	3.22	-41.5	" "
	0840	10.04	6000	150	24.15	6.93	4.72	0.05	3.15	-38.3	" "
	0850	10.04	7500	150	24.18	6.94	4.72	0.06	3.07	-35.6	" "

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time

~~SWMU 122~~ 0855

Sample Identification

SWMU 122 - MW02

3 x well volumes = .95 gal

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122 - MW03	Date: 7-14-09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: –
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: –	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 9.62	Casing Type: PVC Diam. (in) 1	Weather: Clear 90°
	(B) Total Well Depth (ft BTOC): 18.42	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): –
	(C) Water Column Thickness (ft) (B-A): 8.8	Screen Length (lin ft): 10	Breathing Zone PID (ppm): –
	(D) Well Volume (gal) (C x E): 0.35	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): –

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071409	0940	9.62	0	100	26.30	7.16	3.91	0.08	721	-95	Cloudy / No Odor
	0950	11.17	1000	100	25.96	7.12	3.90	0.04	105	-115	Clearing
	1000	11.36	2000	100	26.09	7.11	3.89	0.04	36.9	-110	" "
	1010	11.35	3000	100	26.20	7.11	3.86	0.03	21.2	-116	" "
	1020	11.35	4000	100	26.33	7.10	3.82	0.03	14.9	-133	" "
	1030	11.35	5000	100	26.46	7.09	3.82	0.03	13.9	-136	" "

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time

1045

Sample Identification

SWMU 122 - MW03

3 Well volumes = 1.05

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122- MW03	Date: 7-14-09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential	Remarks (odor, clarity, etc.)
071409	1040	11.35	6000	100	26.45	7.09	3.82	0.03	13.6	-132	Clear / No Odor

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: **SWMUs 122 and 123**	Location ID: SWMU122-MW04	Date: 7/14/09
	Project Name: **RCRA Facility Investigation**	Project No./Phase: **8080014/02.020**	Recorded By: Dustin McNeil
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI-556	PID Type/ID#:
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity	Decon Method: **Liquinox**
	Tubing Type/Diameter (in): 1/4" Poly	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 9.69	Casing Type: **PVC** Diam. (in) 1"	Weather: sunny, ~85°+
	(B) Total Well Depth (ft BTOC): 17.49	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm):
	(C) Water Column Thickness (ft) (B-A): 7.8	Screen Length (lin ft): 10'	Breathing Zone PID (ppm):
	(D) Well Volume (gal) (C x E): 0.312	Screen Info: Type: PVC Prepack Size: 0.010" slot	Well Opening PID (ppm):

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071409	0800	9.69	0	100	25.25	7.26	5.237	2.78	>1000	-10.9	cloudy, no odor
	0812	12.48	1200	100	24.97	7.19	4.168	1.70	>1000	-23.3	"
	0824	13.29	2400	100	24.70	7.25	4.535	0.59	1000	-71.1	"
	0836	13.39	3600	100	24.69	7.29	4.816	0.41	327	-92.8	slightly cloudy, no odor
	0848	13.50	4800	100	24.67	7.28	4.864	0.59	139	-91.6	clear, no odor
↓	0900	13.59	6000	100	24.76	7.28	4.890	0.64	137	-89.6	"

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time: 0930

Sample Identification: SWMU122-MW04

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION			
Site:	SWMUs 122 and 123	Location ID: SWMU122-MW04	Date: 7/14/09
Project Name:	RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: Dustin McNeil

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential	Remarks (odor, clarity, etc.)
071409	0912	13.46	7200	100	24.85	7.27	4.925	0.62	185	-88.6	clear, no odor

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU122-MW05	Date: 7/14/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: Dustin McNeil
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI-556	PID Type/ID#:
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.45	Casing Type: PVC Diam. (in) 1	Weather: Sunny, hot, ~90°+
	(B) Total Well Depth (ft BTOC): 18.28	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm):
	(C) Water Column Thickness (ft) (B-A): 7.83	Screen Length (lin ft): 10'	Breathing Zone PID (ppm):
	(D) Well Volume (gal) (C x E): 0.313	Screen Info: Type: PVC - Prepack Size: 0.010" slot	Well Opening PID (ppm):

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071409	1057	10.45	0	100	27.05	7.21	7.039	1.50	316	-0.9	slightly cloudy, No odor.
	1109	14.81	1200	100	26.82	7.17	6.577	3.32	35.6	15.5	clear, no odor
	1121	15.00	2400	100	27.68	7.20	7.311	2.03	49.5	-27.6	"
	-well pumped dry @ 1130, let gw recharge + obtain samples.										
	- One 1L Amber collected for each: PCBs, SVOCs, + TPH (DRO/ORO)										

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time

Sample Identification

SWMU122-MW05

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU122-MW06	Date: 7/13/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: Dustin McNeil
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI-556	PID Type/ID#:
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4" Poly	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 9.89	Casing Type: PVC Diam. (in) 1"	Weather: sunny, ~85°+
	(B) Total Well Depth (ft BTOC): 18.29	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm):
	(C) Water Column Thickness (ft) (B-A): 8.4	Screen Length (lin ft): 10'	Breathing Zone PID (ppm):
	(D) Well Volume (gal) (C x E): 0.34	Screen Info: Type: PVC Prepack Size:	Well Opening PID (ppm):

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071309	0915	9.89	0	150	25.01	7.66	8.019	1.06	4.77	102.1	clear, no odor
	0925	11.34	1400	150	24.94	7.64	8.006	1.26	1.80	79.9	"
	0935	11.42	2800	150	25.05	7.64	7.970	1.25	1.60	71.9	"
	0945	11.44	4200	150	25.11	7.66	7.969	1.45	1.51	72.9	"
	0955	11.47	5600	150	25.09	7.66	7.962	1.89	0.69	78.0	"
	1005	11.51	7000	150	25.16	7.64	7.970	1.89	0.64	79.9	"

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time

1020

Sample Identification

SWMU122-MW06

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION				
Site:	SWMUs 122 and 123	Location ID:	SWMU122-MW06	Date: 7/13/09
Project Name:	RCRA Facility Investigation	Project No./Phase:	8080014/02.020	Recorded By: Dustin McNeal

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential	Remarks (odor, clarity, etc.)
071309	1015	11.54	8400	150	25.13	7.62	7.990	1.90	0.59	76.6	clear, no odor

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU122-MW07	Date: 7/13/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: Dustin McNeil
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI-556	PID Type/ID#:
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 11.58	Casing Type: PVC Diam. (in) 1	Weather: Sunny, ~90° +
	(B) Total Well Depth (ft BTOC): 18.22	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm):
	(C) Water Column Thickness (ft) (B-A): 6.64	Screen Length (lin ft): 10'	Breathing Zone PID (ppm):
	(D) Well Volume (gal) (C x E): 0.27	Screen Info: Type: PVC prepack Size: 0.010"	Well Opening PID (ppm):

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071309	1123	11.58	0	150	26.43	7.77	5.1065	3.79	28.5	107.6	clear, no odor
	1130	12.09	1050	150	25.60	7.65	5.201	0.79	35.0	114.8	" "
	1137	13.50	2100	150	25.44	7.58	5.214	0.76	7.94	134.0	" "
	1144	15.06	3150	150	25.55	7.47	5.170	0.73	13.3	69.0	" "
	1155	16.21	4200	100	25.97	7.30	5.287	0.61	33.4	-2.4	" "
	1206	17.23	5250	100	25.90	7.20	5.348	0.51	19.1	-7.4	" "

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time: 1330

Sample Identification: SWMU122-MW07

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122 - MW07	Date: 7/13/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: Dustin McNeil

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential	Remarks (odor, clarity, etc.)
071309	1217		6400	100	27.34	7.22	5.482	1.13	18.6	-29.5	
	1218 - well dry, stop pumping										
	1330 * groundwater samples obtained without parameter stabilization due to poor well recharge										
	- one 1L amber collected for each: PCBs, SVOC's, + TPH (DRO/ORO)										

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: **SWMUs 122 and 123**	Location ID: SWMU 122- MW08	Date: 7/13/09
	Project Name: **RCRA Facility Investigation**	Project No./Phase: **8080014/02.020**	Recorded By: Dustin McNeil
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI-556	PID Type/ID#:
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity	Decon Method: **Liquinox**
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.96	Casing Type: **PVC** 1" Diam. (in)	Weather: Sunny - mid 90's F
	(B) Total Well Depth (ft BTOC): 18.62	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm):
	(C) Water Column Thickness (ft) (B-A): 7.66	Screen Length (lin ft): 10'	Breathing Zone PID (ppm):
	(D) Well Volume (gal) (C x E): 0.3064	Screen Info: PVC Type: Prepack Size: 0.010	Well Opening PID (ppm):

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
7/13/09	1402	10.96	0	0	28.02	7.18	6.050	1.13	11.4	30.3	clear, no odor
	1414	12.35	1200	100	27.11	7.14	5.849	0.72	17.2	-9.2	"
	1426	12.95	2400	100	26.30	7.17	5.638	1.29	3.70	-20.0	"
	1438	13.20	3600	100	26.51	7.20	5.661	1.69	2.33	-14.6	"
	1450	13.32	4800	100	25.97	7.24	5.632	1.95	1.46	-14.8	"
	1502	13.38	6000	100	25.99	7.27	5.633	2.14	1.51	-9.9	"

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time

1540

Sample Identification

SWMU122- MW08

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU122-MW08	Date: 7/13/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: Dustin McNeil

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential	Remarks (odor, clarity, etc.)
071309	1514	13.39	7200	100	25.47	7.31	5.591	2.31	0.58	-5.9	clear, no odor.
	1526	13.38	8400	100	25.32	7.40	5.570	2.51	0.62	-7.9	"
	1538	13.39	9600	100	25.71	7.38	5.616	2.48	0.69	-11.7	"

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: **SWMUs 122 and 123**	Location ID: SWMU122-MW09	Date: 7/14/09
	Project Name: **RCRA Facility Investigation**	Project No./Phase: **8080014/02.020**	Recorded By: Dustin McNeil
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI-556	PID Type/ID#:
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity	Decon Method: **Liquinox**
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 11.49	Casing Type: **PVC** Diam. (in) 1	Weather:
	(B) Total Well Depth (ft BTOC): 18.44	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm):
	(C) Water Column Thickness (ft) (B-A): 6.95	Screen Length (lin ft): 10'	Breathing Zone PID (ppm):
	(D) Well Volume (gal) (C x E): 0.278	Screen Info: Type: PVC Prepack Size: 0.010" slot	Well Opening PID (ppm):

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
071409	1310	11.49	0	100	27.83	7.19	9.976	0.64	>1000	-102.7	cloudy, petroleum odor
	1321	12.31	1100	100	26.69	7.16	9.788	0.21	218	-115.4	"
	1332	12.35	2200	100	27.06	7.12	9.818	0.18	27.3	-118.8	clear, petroleum odor
	1343	12.34	3300	100	27.07	7.09	9.834	0.19	17.8	-100.0	"
	1354	12.31	4400	100	27.02	7.12	9.956	0.23	11.8	-91.2	"
	1405	12.31	5500	100	27.03	7.11	9.836	0.23	7.59	-96.4	"

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time

1445

Sample Identification

SWMU122-MW09

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU122-MW09	Date: 7/14/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: Dustin McNeil

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential	Remarks (odor, clarity, etc.)
071409	1416	12.32	6600	100	27.14	7.10	9.863	0.26	12.4	-93.3	clear, petroleum odor
	1427	12.33	7700	100	27.09	7.11	9.871	0.26	11.9	-86.4	"
↓	1438	12.34	8800	100	27.20	7.12	9.890	0.26	11.2	-90.8	"

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122 - MW10	Date: 7/9/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: —	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 7.18	Casing Type: PVC Diam. (in) 1	Weather: Clear 85°
	(B) Total Well Depth (ft BTOC): 18.6	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 11.42	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 0.45	Screen Info: Type: Slotted/Prepack Size: 1	Well Opening PID (ppm): —

CASING INFO										
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
070909	0740	7.18	0	200	22.97	7.51	2.41	0.22	18.2	138	Clear / No Odor
	0750	7.74	2000	200	22.78	7.42	2.25	0.16	4.8	70	" "
	0800	7.74	4000	200	22.76	7.47	2.21	0.15	2.08	23	" "
	0810	7.74	6000	200	22.74	7.49	2.21	0.14	1.22	-1.9	" "
	0820	7.74	8000	200	22.76	7.50	2.21	0.14	1.16	-3.2	" "
	0830	7.74	10000	200	22.78	7.50	2.21	0.14	1.13	-5.6	" "

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time

0840

Sample Identification

SWMU 122-MW10, -a, -MS, MSD
3 Well Volumes = 1.35 gal

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 122-MW 11	Date: 7-9-09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic/Bailer	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.64	Casing Type: PVC Diam. (in) 1	Weather: Hot 1000
	(B) Total Well Depth (ft BTOC): 18.75	(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 8.11	Screen Length (lin ft): 10	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 0.32	Screen Info: Type: Slotted Size: 1	Well Opening PID (ppm): —

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
		*Due to slow recharge rate, No parameters were taken. Well will be sampled with a bailer over multiple days.									

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Sample Time

Sample Identification
SWMU122-MW11

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site:	SWMUs 122 and 123	Location ID: SWMU 122 -MW12	Date: 7/9/09	
	Project Name:	RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM	
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic		Water Quality Meter/ID#: YSI	PID Type/ID#: —	
	Water Level Indicator Type/ID#: Heron		Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox	
	Tubing Type/Diameter (in): 1/4 =		Other Equipment/ID#: —	PPE Level: (D) C B A	
WELL INFO	(A) Initial Depth to Water (ft BTOC): 11.90		Casing Type: PVC Diam. (in) 1	Weather: Overcast 90°	
	(B) Total Well Depth (ft BTOC): 19.15		(E) Casing Volume Multiplier (gal/lin ft): 0.04	Background PID (ppm): —	
	(C) Water Column Thickness (ft) (B-A): 7.25		Screen Length (lin ft): 10	Breathing Zone PID (ppm): —	
	(D) Well Volume (gal) (C x E): 0.29		Screen Info: Type: Slotted/Pre pack Size: 1	Well Opening PID (ppm): —	

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
			* Due to slow recharge rate, No parameters were taken.								
			Well will be sampled with a bailer over multiple days.								

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Sample Time

Sample Identification
SWMU 122 - MW12

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 123-MW3	Date: 7/7/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#: —	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 10.56	Casing Type: PVC Diam. (in) 2	Weather: Hot 95°
	(B) Total Well Depth (ft BTOC): 18.00	(E) Casing Volume Multiplier (gal/lin ft): .16	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 7.44	Screen Length (lin ft):	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 1.19	Screen Info: Type: Size:	Well Opening PID (ppm): —

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	(CM) Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
070709	1345	10.56	0	250	21.35	7.19	0.84	0.84	10.4	-124	Clear / Strong Odor
	1355	10.91	2500	250	20.97	7.18	0.29	[illegible]	4.57	-159	" "
	1405	10.94	5000	250	20.84	7.18	0.27	[illegible]	2.28	-172	" "
	1415	10.94	7500	250	21.02	7.17	0.17	[illegible]	1.87	-170	" "
	1425	10.94	10000	250	20.99	7.16	0.15	0.15	0.99	-175	" "
	1435	10.94	12500	250	20.90	7.15	0.17	0.17	0.96	-183	" "

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Sample Time
1450

Sample Identification
SWMU 123-MW3, SWMU 123-MW3-a
3 well volumes = 3.57 gal

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION			
Site: SWMUs 122 and 123	Location ID: SWMU 123-MW3	Date: 7-7-09
Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential	Remarks (odor, clarity, etc.)
070709	1445	10.94	15000	250	20.90	7.15	2.97	0.16	0.92	-184	" "

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site: SWMUs 122 and 123	Location ID: SWMU 123-MW4	Date: 7/8/09
	Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Pegasus Peristaltic	Water Quality Meter/ID#: YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in): 1/4"	Other Equipment/ID#:	PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 11.11	Casing Type: PVC Diam. (in) 2	Weather: Clear 85°
	(B) Total Well Depth (ft BTOC): 18.34	(E) Casing Volume Multiplier (gal/lin ft): .16	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A): 7.23	Screen Length (lin ft):	Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E): 1.16	Screen Info: Type: Size:	Well Opening PID (ppm): —

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
070809	0755	11.11	0	300	21.33	7.19	6.67	0.31	68.8	255	Slightly Cloudy/No Odor
	0805	11.55	3000	300	21.23	7.15	6.56	0.32	16.4	186	Clear/No Odor
	0815	11.57	6000	300	21.21	7.16	6.56	0.31	10.1	131	Clear / No Odor
	0825	11.59	9000	300	21.18	7.16	6.53	0.31	6.6	100	" "
	0835	11.59	12000	300	21.21	7.17	6.54	0.30	3.6	79	" "
	0845	11.60	15000	300	21.21	7.17	6.54	0.31	3.9	75	" "

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Sample Time
0900

Sample Identification
SWMU 123-MW4
3 Well Volumes = 3.48 gal

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION			
Site: SWMUs 122 and 123	Location ID: SWMU 123-MW4	Date: 7-8-09
Project Name: RCRA Facility Investigation	Project No./Phase: 8080014/02.020	Recorded By: CM

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mL)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential	Remarks (odor, clarity, etc.)
070809	0855	11.62	18000	300	21.22	7.17	6.54	0.31	4.1	173	" "

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site:	SWMUs 122 and 123	Location ID:	SWMU 123-MW5	Date: 7-7-09
	Project Name:	RCRA Facility Investigation	Project No./Phase:	8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#:	Pegasus Peristaltic	Water Quality Meter/ID#:		PID Type/ID#: —
	Water Level Indicator Type/ID#:	Heron	Other Equipment/ID#:		Decon Method: Liquinox
	Tubing Type/Diameter (in):	1/4"	Other Equipment/ID#:		PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC):	10.61	Casing Type: PVC	Diam. (in) 2	Weather: Clear 920
	(B) Total Well Depth (ft BTOC):	18.32	(E) Casing Volume Multiplier (gal/lin ft):	.16	Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A):	7.71	Screen Length (lin ft):		Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E):	1.23	Screen Info: Type:	Size:	Well Opening PID (ppm): —

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
070709	1035	10.61	0	300	23.98	7.43	6.67	3.29	59.2	-57	Clear / No Odor
	1045	11.22	3000	300	23.90	7.32	6.61	3.46	17.7	-40.6	" "
	1055	11.20	6000	300	23.40	7.38	6.46	2.99	4.63	-29.8	" "
	1105	11.15	9000	300	23.93	7.45	6.55	2.85	2.62	-29.5	" "
	1115	11.15	1200	300	23.96	7.45	6.54	2.81	2.64	-23.8	" "
	1125	11.15	15000	300	23.96	7.43	6.54	2.83	2.72	-21.9	" "

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time: 1130

Sample Identification: SWMU123-MW5

3.69g = 3 well Volumes

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

MONITORING WELL SAMPLE COLLECTION FORM

NATIONVIEW

LOCATION	Site:	SWMUs 122 and 123	Location ID:	S54- MW4	Date: 7/8/09
	Project Name:	RCRA Facility Investigation	Project No./Phase:	8080014/02.020	Recorded By: CM
EQUIPMENT	Pump Type/ID#:		Water Quality Meter/ID#:	YSI	PID Type/ID#: —
	Water Level Indicator Type/ID#:		Other Equipment/ID#:	Hanna Turbidity Mtr.	Decon Method: Liquinox
	Tubing Type/Diameter (in):		Other Equipment/ID#:		PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC):		Casing Type: PVC	Diam. (in) 2	Weather: Clear 90°
	(B) Total Well Depth (ft BTOC):		(E) Casing Volume Multiplier (gal/lin ft):		Background PID (ppm): —
	(C) Water Column Thickness (ft) (B-A):		Screen Length (lin ft):		Breathing Zone PID (ppm): —
	(D) Well Volume (gal) (C x E):		Screen Info: Type:	Size:	Well Opening PID (ppm): —

CASING INFO											
Riseer/Well Casing Inner Diameter (in)	0.50	1.00	1.50	2.00	3.00	4.00	5.0	6.0	8.0	10
(D) Casing Volume Multiplier(gal/lin ft)	0.02	0.04	0.10	0.16	0.38	0.65	1.02	1.47	2.61	4.08

DATE (mmddyy)	TIME (24 Hr)	Water Level (BTOC)	Volume Removed (mLl)	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
				Dry Well							

Colorimeter Results				
Time	Analyte	Dilution	Result	Units

Sample Time

Sample Identification

No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
3	40 ml	VOAs	HCl	N	8260B	VOCs
2	1 L	Amber	None	N	8270C	SVOC
2	1 L	Amber	None	N	8082	PCBs
1	.5 L	Plastic	HNO3	Y	6010/7470	TAL Metals
2	1 L	Amber	H2SO4	N	8015B	TPH, -DRO, -ORO
3	40 ml	VOAs	HCl	N	8015B	TPH, -GRO
1	.5L	Plastic	None	N	2540C	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 10%	DO	+/- 10%
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 5 NTUs
	Cond	+/- 10%	ORP	+/- 10

APPENDIX F
ANALYTICAL DATA PACKAGES
(PROVIDED ON ENCLOSED CD)

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/28/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66494

Sampling Date: 07/07/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **63**

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

Client Service contact: Jean Dent-Smith 407-425-6700

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
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Test results relate only to samples analyzed.

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Accutest LabLink@92179 14:56 28-Jul-2009

Sample Summary

Nation View

Job No: F66494

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66494-1	07/07/09	11:30	CM	07/08/09	AQ	Ground Water	SWMU 123-MW5
F66494-2	07/07/09	11:30	CM	07/08/09	AQ	Trip Blank Water	TRIP BLANK

Sample Results

Report of Analysis

Accutest LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A005158.D	1	07/09/09	TD	n/a	n/a	VA223
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	111%		86-112%
460-00-4	4-Bromofluorobenzene	112%		84-120%

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 LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X006872.D	1	07/09/09	RB	07/09/09	OP29549	SX361
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	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

Accutest LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	45%		14-62%
4165-62-2	Phenol-d5	30%		10-40%
118-79-6	2,4,6-Tribromophenol	92%		33-118%

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:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	87%		42-108%
321-60-8	2-Fluorobiphenyl	79%		40-106%
1718-51-0	Terphenyl-d14	82%		39-121%

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 LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046217.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	95%		38-127%
2051-24-3	Decachlorobiphenyl	109%		25-137%

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 LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26836.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	84%		42-114%

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 LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	11 U	200	11	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Arsenic	17.3	10	5.4	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Barium	15.0 J	200	5.0	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	491000	1000	100	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Chromium	2.0 U	10	2.0	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	1.0 U	50	1.0	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	23 U	300	23	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	2.0 U	10	2.0	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Magnesium	323000	5000	100	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	1.0 U	15	1.0	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/09/09	07/09/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	2.3 J	40	2.3	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	29200	10000	100	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium	28.8	10	3.4	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	816000	200000	10000	ug/l	20	07/09/09	07/10/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium [a]	3.6 U	20	3.6	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	143	50	0.90	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	7.4 U	20	7.4	ug/l	1	07/09/09	07/09/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7348
(2) Instrument QC Batch: MA7349
(3) Instrument QC Batch: MA7351
(4) Prep QC Batch: MP16649
(5) Prep QC Batch: MP16650

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	7430	1000	100	mg/l	10	07/13/09	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66494-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/08/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	A005159.D	1	07/09/09	TD	n/a	n/a	VA223
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66494-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/08/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 14:56 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66494-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/08/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	102%		76-127%
2037-26-5	Toluene-D8	112%		86-112%
460-00-4	4-Bromofluorobenzene	108%		84-120%

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:

- Certification Exceptions
- Chain of Custody

F66494

NATIONVIEW

PO# 09-0112

Page: 1 of 1

NationView Project No: 8080014.02.020

COC Number[1]: 7/7/09

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122 + 123

Client Name: USACE

Collected by: Craig McGriff

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU 123-MW5		07-July-2009	1130	-	N		WG	14	X	X	X	X	X	X								1
2	Trip Blank		07-July-2009	1130	-	TB		WQ	2	X													1
					-																		
					-																		
					-																		
					-																		
					-																		
					-																		
					-																		

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

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	[signature]	7/7/09	1500	[signature]		
2.	[signature]	7/8/09	9:00	[signature] / Accutest	7/8/09	9:00
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Airbill Number:

Analytical Lab: Delivery Location:

Lab Recipient: Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

4.0

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 10109901 in the Equipment Blank Lot Control

F66494: Chain of Custody

Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66494 CLIENT: NAtionview PROJECT: Hollaman AFB

DATE/TIME RECEIVED: 7/8/09 9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 4.0

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

AIRBILL NUMBERS: 8696 4911 0749

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] 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 NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] 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 NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? 0

NUMBER OF 5035 FIELD KITS ? 0

NUMBER OF LAB FILTERED METALS ? 0

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 7/8/09 TECHNICIAN SIGNATURE/DATE 7-8-09

ASBD 12/17/07

F66494: Chain of Custody
Page 2 of 3

Job Change Order: F66494_7/24/2009

Requested Date:	7/24/2009	**Received Date:**	7/8/2009
Account Name:	Nation View	**Due Date:**	7/22/2009
Project Description:	Holloman AFB; SWMU 122 & 123	**Deliverable:**	COMMB
CSR:	JDS	**TAT (Days):**	2

Sample #:
F66494-1

Change: Please log and analyze for V8015GRO. Sample is to be run and analyze out of hold per request of client. Thank you.

SWMU 123-MW5

Above Changes Client Marcia Olive per telephone **Date:** 7/24/2009

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

Page 1 of 1

F66494: Chain of Custody
Page 3 of 3

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: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA223-MB	A005148.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	

Method Blank Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA223-MB	A005148.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

Method Blank Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA223-MB	A005148.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	87-116%
17060-07-0	1,2-Dichloroethane-D4	103%	76-127%
2037-26-5	Toluene-D8	110%	86-112%
460-00-4	4-Bromofluorobenzene	114%	84-120%

Blank Spike Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA223-BS	A005147.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	112	90	59-134
107-02-8	Acrolein	125	84.0	67	33-157
107-13-1	Acrylonitrile	125	144	115	62-124
71-43-2	Benzene	25	23.3	93	83-124
108-86-1	Bromobenzene	25	22.0	88	83-115
74-97-5	Bromochloromethane	25	24.1	96	78-112
75-27-4	Bromodichloromethane	25	21.3	85	76-116
75-25-2	Bromoform	25	21.5	86	68-128
104-51-8	n-Butylbenzene	25	21.9	88	84-124
135-98-8	sec-Butylbenzene	25	22.8	91	86-127
98-06-6	tert-Butylbenzene	25	22.4	90	83-126
108-90-7	Chlorobenzene	25	26.5	106	87-115
75-00-3	Chloroethane	25	34.9	140	54-166
67-66-3	Chloroform	25	26.6	106	85-123
95-49-8	o-Chlorotoluene	25	23.1	92	84-121
106-43-4	p-Chlorotoluene	25	22.5	90	84-120
110-75-8	2-Chloroethyl vinyl ether	125	116	93	63-125
75-15-0	Carbon disulfide	25	24.7	99	67-147
56-23-5	Carbon tetrachloride	25	25.0	100	74-139
75-34-3	1,1-Dichloroethane	25	27.3	109	82-127
75-35-4	1,1-Dichloroethylene	25	28.0	112	75-133
563-58-6	1,1-Dichloropropene	25	23.3	93	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	22.7	91	61-118
106-93-4	1,2-Dibromoethane	25	25.5	102	80-115
107-06-2	1,2-Dichloroethane	25	25.9	104	76-122
78-87-5	1,2-Dichloropropane	25	21.8	87	81-120
142-28-9	1,3-Dichloropropane	25	22.6	90	81-113
594-20-7	2,2-Dichloropropane	25	23.1	92	77-138
124-48-1	Dibromochloromethane	25	22.2	89	74-116
75-71-8	Dichlorodifluoromethane	25	25.3	101	34-158
156-59-2	cis-1,2-Dichloroethylene	25	22.7	91	81-114
10061-01-5	cis-1,3-Dichloropropene	25	25.1	100	83-119
541-73-1	m-Dichlorobenzene	25	22.2	89	86-115
95-50-1	o-Dichlorobenzene	25	21.5	86	85-115
106-46-7	p-Dichlorobenzene	25	25.5	102	87-113
156-60-5	trans-1,2-Dichloroethylene	25	23.8	95	82-126

Blank Spike Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA223-BS	A005147.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	25	23.0	92	87-123
100-41-4	Ethylbenzene	25	24.1	96	87-118
591-78-6	2-Hexanone	125	116	93	58-125
87-68-3	Hexachlorobutadiene	25	21.7	87	71-133
110-54-3	Hexane	25	25.0	100	71-134
98-82-8	Isopropylbenzene	25	27.7	111	87-131
99-87-6	p-Isopropyltoluene	25	22.3	89	83-125
108-10-1	4-Methyl-2-pentanone	125	118	94	62-125
74-83-9	Methyl bromide	25	29.1	116	55-151
74-87-3	Methyl chloride	25	30.6	122	55-173
74-95-3	Methylene bromide	25	25.1	100	81-116
75-09-2	Methylene chloride	25	24.2	97	69-125
78-93-3	Methyl ethyl ketone	125	107	86	61-127
1634-04-4	Methyl Tert Butyl Ether	25	20.6	82	75-116
91-20-3	Naphthalene	25	20.6	82	59-125
103-65-1	n-Propylbenzene	25	22.5	90	86-125
100-42-5	Styrene	25	22.0	88	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	25.2	101	81-119
71-55-6	1,1,1-Trichloroethane	25	25.5	102	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	24.4	98	71-120
79-00-5	1,1,2-Trichloroethane	25	24.5	98	80-114
87-61-6	1,2,3-Trichlorobenzene	25	20.9	84	64-126
96-18-4	1,2,3-Trichloropropane	25	22.2	89	77-115
120-82-1	1,2,4-Trichlorobenzene	25	20.7	83	68-123
95-63-6	1,2,4-Trimethylbenzene	25	21.9	88	82-120
108-67-8	1,3,5-Trimethylbenzene	25	22.5	90	83-123
127-18-4	Tetrachloroethylene	25	23.2	93	80-131
108-88-3	Toluene	25	23.8	95	86-116
79-01-6	Trichloroethylene	25	21.8	87	85-124
75-69-4	Trichlorofluoromethane	25	32.7	131	66-156
75-01-4	Vinyl chloride	25	31.2	125	57-153
108-05-4	Vinyl Acetate	125	135	108	38-159
	m,p-Xylene	50	47.2	94	86-121
95-47-6	o-Xylene	25	22.1	88	83-121

Blank Spike Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VA223-BS	A005147.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	87-116%
17060-07-0	1,2-Dichloroethane-D4	106%	76-127%
2037-26-5	Toluene-D8	99%	86-112%
460-00-4	4-Bromofluorobenzene	105%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66494-1MS	A005163.D	1	07/09/09	TD	n/a	n/a	VA223
F66494-1MSD	A005164.D	1	07/09/09	TD	n/a	n/a	VA223
F66494-1	A005158.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Compound	F66494-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	74.1	59	74.1	59	0	59-134/14
107-02-8	Acrolein	ND		125	69.0	55	49.8	40	32*	33-157/21
107-13-1	Acrylonitrile	ND		125	132	106	142	114	7	62-124/13
71-43-2	Benzene	ND		25	24.3	97	24.2	97	0	83-124/11
108-86-1	Bromobenzene	ND		25	22.5	90	22.6	90	0	83-115/10
74-97-5	Bromochloromethane	ND		25	25.2	101	25.1	100	0	78-112/10
75-27-4	Bromodichloromethane	ND		25	22.2	89	20.7	83	7	76-116/10
75-25-2	Bromoform	ND		25	20.1	80	20.0	80	0	68-128/11
104-51-8	n-Butylbenzene	ND		25	22.3	89	22.7	91	2	84-124/10
135-98-8	sec-Butylbenzene	ND		25	23.3	93	23.6	94	1	86-127/10
98-06-6	tert-Butylbenzene	ND		25	22.5	90	22.8	91	1	83-126/10
108-90-7	Chlorobenzene	ND		25	27.7	111	27.4	110	1	87-115/9
75-00-3	Chloroethane	ND		25	37.1	148	33.6	134	10	54-166/20
67-66-3	Chloroform	ND		25	28.2	113	28.1	112	0	85-123/10
95-49-8	o-Chlorotoluene	ND		25	23.8	95	24.0	96	1	84-121/10
106-43-4	p-Chlorotoluene	ND		25	22.6	90	23.0	92	2	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		25	22.7	91	21.3	85	6	67-147/12
56-23-5	Carbon tetrachloride	ND		25	25.2	101	21.0	84	18*	74-139/13
75-34-3	1,1-Dichloroethane	ND		25	28.0	112	28.4	114	1	82-127/10
75-35-4	1,1-Dichloroethylene	ND		25	29.9	120	30.7	123	3	75-133/13
563-58-6	1,1-Dichloropropene	ND		25	23.5	94	23.9	96	2	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	23.3	93	24.5	98	5	61-118/15
106-93-4	1,2-Dibromoethane	ND		25	25.1	100	26.4	106	5	80-115/10
107-06-2	1,2-Dichloroethane	ND		25	27.2	109	27.2	109	0	76-122/11
78-87-5	1,2-Dichloropropane	ND		25	22.8	91	22.6	90	1	81-120/11
142-28-9	1,3-Dichloropropane	ND		25	22.6	90	23.3	93	3	81-113/11
594-20-7	2,2-Dichloropropane	ND		25	22.4	90	24.3	97	8	77-138/12
124-48-1	Dibromochloromethane	ND		25	21.0	84	20.8	83	1	74-116/11
75-71-8	Dichlorodifluoromethane	ND		25	22.0	88	24.9	100	12	34-158/22
156-59-2	cis-1,2-Dichloroethylene	ND		25	22.1	88	22.8	91	3	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	20.6	82*	20.1	80*	2	83-119/10
541-73-1	m-Dichlorobenzene	ND		25	22.6	90	23.0	92	2	86-115/9
95-50-1	o-Dichlorobenzene	ND		25	22.4	90	22.6	90	1	85-115/9
106-46-7	p-Dichlorobenzene	ND		25	26.5	106	26.4	106	0	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		25	23.8	95	24.5	98	3	82-126/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66494-1MS	A005163.D	1	07/09/09	TD	n/a	n/a	VA223
F66494-1MSD	A005164.D	1	07/09/09	TD	n/a	n/a	VA223
F66494-1	A005158.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Compound	F66494-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		25	21.0	84*	20.8	83*	1	87-123/10
100-41-4	Ethylbenzene	ND		25	25.1	100	25.3	101	1	87-118/10
591-78-6	2-Hexanone	ND		125	109	87	126	101	14	58-125/14
87-68-3	Hexachlorobutadiene	ND		25	21.7	87	23.0	92	6	71-133/12
110-54-3	Hexane	ND		25	26.9	108	26.6	106	1	71-134/11
98-82-8	Isopropylbenzene	ND		25	28.0	112	28.5	114	2	87-131/10
99-87-6	p-Isopropyltoluene	ND		25	22.7	91	23.0	92	1	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		125	130	104	145	116	11	62-125/13
74-83-9	Methyl bromide	ND		25	29.6	118	27.9	112	6	55-151/21
74-87-3	Methyl chloride	ND		25	28.0	112	31.5	126	12	55-173/22
74-95-3	Methylene bromide	ND		25	26.5	106	26.6	106	0	81-116/10
75-09-2	Methylene chloride	ND		25	25.4	102	25.1	100	1	69-125/11
78-93-3	Methyl ethyl ketone	ND		125	90.8	73	97.8	78	7	61-127/13
1634-04-4	Methyl Tert Butyl Ether	ND		25	19.9	80	22.2	89	11*	75-116/10
91-20-3	Naphthalene	ND		25	20.5	82	23.0	92	11	59-125/15
103-65-1	n-Propylbenzene	ND		25	22.7	91	23.0	92	1	86-125/10
100-42-5	Styrene	ND		25	22.0	88	21.0	84	5	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	25.6	102	25.1	100	2	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		25	25.8	103	25.9	104	0	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	25.4	102	26.1	104	3	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		25	25.2	101	25.6	102	2	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		25	21.2	85	22.5	90	6	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		25	23.1	92	23.7	95	3	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		25	20.7	83	21.7	87	5	68-123/11
95-63-6	1,2,4-Trimethylbenzene	ND		25	22.1	88	22.1	88	0	82-120/10
108-67-8	1,3,5-Trimethylbenzene	ND		25	22.7	91	23.0	92	1	83-123/10
127-18-4	Tetrachloroethylene	ND		25	23.7	95	23.6	94	0	80-131/12
108-88-3	Toluene	ND		25	24.2	97	24.8	99	2	86-116/10
79-01-6	Trichloroethylene	ND		25	23.2	93	22.5	90	3	85-124/10
75-69-4	Trichlorofluoromethane	ND		25	33.9	136	33.3	133	2	66-156/15
75-01-4	Vinyl chloride	ND		25	28.6	114	32.4	130	12	57-153/22
108-05-4	Vinyl Acetate	ND		125	129	103	135	108	5	38-159/11
	m,p-Xylene	ND		50	48.5	97	48.9	98	1	86-121/10
95-47-6	o-Xylene	ND		25	22.0	88	22.8	91	4	83-121/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66494-1MS	A005163.D	1	07/09/09	TD	n/a	n/a	VA223
F66494-1MSD	A005164.D	1	07/09/09	TD	n/a	n/a	VA223
F66494-1	A005158.D	1	07/09/09	TD	n/a	n/a	VA223

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

F66494-1, F66494-2

CAS No.	Surrogate Recoveries	MS	MSD	F66494-1	Limits
1868-53-7	Dibromofluoromethane	101%	101%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	109%	108%	104%	76-127%
2037-26-5	Toluene-D8	95%	97%	111%	86-112%
460-00-4	4-Bromofluorobenzene	98%	101%	112%	84-120%

GC/MS Semi-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: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-MB	X006870.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-MB	X006870.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	47%	14-62%
4165-62-2	Phenol-d5	31%	10-40%

Method Blank Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-MB	X006870.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	95%	33-118%
4165-60-0	Nitrobenzene-d5	91%	42-108%
321-60-8	2-Fluorobiphenyl	82%	40-106%
1718-51-0	Terphenyl-d14	85%	39-121%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile [a]		0	ug/l	

(a) No TICs detected.

Blank Spike Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-BS	X006869.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	12.6	13	10-50
95-57-8	2-Chlorophenol	50	42.3	85	44-103
59-50-7	4-Chloro-3-methyl phenol	50	48.0	96	53-105
120-83-2	2,4-Dichlorophenol	50	48.0	96	53-108
105-67-9	2,4-Dimethylphenol	50	37.1	74	37-91
51-28-5	2,4-Dinitrophenol	100	96.7	97	37-111
534-52-1	4,6-Dinitro-o-cresol	100	103	103	62-115
95-48-7	2-Methylphenol	50	34.5	69	35-91
	3&4-Methylphenol	100	70.2	70	32-85
88-75-5	2-Nitrophenol	50	48.3	97	49-111
100-02-7	4-Nitrophenol	100	36.7	37	13-55
87-86-5	Pentachlorophenol	100	94.9	95	57-118
108-95-2	Phenol	50	20.1	40	13-54
95-95-4	2,4,5-Trichlorophenol	50	48.6	97	59-106
88-06-2	2,4,6-Trichlorophenol	50	50.3	101	58-107
83-32-9	Acenaphthene	50	46.1	92	58-106
208-96-8	Acenaphthylene	50	44.9	90	58-105
120-12-7	Anthracene	50	43.0	86	65-108
92-87-5	Benzidine	50	33.0	66	15-73
56-55-3	Benzo(a)anthracene	50	47.5	95	63-111
50-32-8	Benzo(a)pyrene	50	46.9	94	62-106
205-99-2	Benzo(b)fluoranthene	50	48.9	98	63-109
191-24-2	Benzo(g,h,i)perylene	50	45.5	91	61-111
207-08-9	Benzo(k)fluoranthene	50	47.6	95	64-111
101-55-3	4-Bromophenyl phenyl ether	50	48.6	97	64-107
85-68-7	Butyl benzyl phthalate	50	50.8	102	59-114
100-51-6	Benzyl Alcohol	50	37.6	75	34-98
91-58-7	2-Chloronaphthalene	50	42.0	84	54-105
106-47-8	4-Chloroaniline	50	45.0	90	53-103
218-01-9	Chrysene	50	46.1	92	64-111
111-91-1	bis(2-Chloroethoxy)methane	50	45.2	90	48-101
111-44-4	bis(2-Chloroethyl)ether	50	44.0	88	51-108
108-60-1	bis(2-Chloroisopropyl)ether	50	53.1	106	43-106
7005-72-3	4-Chlorophenyl phenyl ether	50	48.9	98	61-107
95-50-1	1,2-Dichlorobenzene	50	39.5	79	41-102
541-73-1	1,3-Dichlorobenzene	50	38.8	78	38-100

Blank Spike Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-BS	X006869.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-46-7	1,4-Dichlorobenzene	50	39.0	78	40-100
121-14-2	2,4-Dinitrotoluene	50	48.5	97	60-109
606-20-2	2,6-Dinitrotoluene	50	45.6	91	58-104
91-94-1	3,3'-Dichlorobenzidine	50	46.7	93	57-105
53-70-3	Dibenzo(a,h)anthracene	50	45.7	91	62-112
132-64-9	Dibenzofuran	50	46.1	92	61-108
84-74-2	Di-n-butyl phthalate	50	49.0	98	62-109
117-84-0	Di-n-octyl phthalate	50	49.3	99	60-120
84-66-2	Diethyl phthalate	50	49.8	100	62-109
131-11-3	Dimethyl phthalate	50	48.3	97	63-106
117-81-7	bis(2-Ethylhexyl)phthalate	50	50.7	101	59-116
206-44-0	Fluoranthene	50	46.6	93	65-114
86-73-7	Fluorene	50	47.7	95	61-106
118-74-1	Hexachlorobenzene	50	45.2	90	62-107
87-68-3	Hexachlorobutadiene	50	41.5	83	38-107
77-47-4	Hexachlorocyclopentadiene	50	28.4	57	19-84
67-72-1	Hexachloroethane	50	40.7	81	35-101
193-39-5	Indeno(1,2,3-cd)pyrene	50	45.9	92	61-113
78-59-1	Isophorone	50	41.1	82	56-111
91-57-6	2-Methylnaphthalene	50	45.6	91	56-112
88-74-4	2-Nitroaniline	50	52.5	105	60-109
99-09-2	3-Nitroaniline	50	48.2	96	52-107
100-01-6	4-Nitroaniline	50	50.3	101	59-111
91-20-3	Naphthalene	50	40.7	81	50-104
98-95-3	Nitrobenzene	50	43.5	87	52-105
621-64-7	N-Nitroso-di-n-propylamine	50	47.4	95	51-104
86-30-6	N-Nitrosodiphenylamine	50	41.5	83	57-110
85-01-8	Phenanthrene	50	46.7	93	65-108
129-00-0	Pyrene	50	47.2	94	60-113
120-82-1	1,2,4-Trichlorobenzene	50	40.2	80	45-104

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	50%	14-62%
4165-62-2	Phenol-d5	32%	10-40%

Blank Spike Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-BS	X006869.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Surrogate Recoveries	BSP	Limits
118-79-6	2,4,6-Tribromophenol	95%	33-118%
4165-60-0	Nitrobenzene-d5	88%	42-108%
321-60-8	2-Fluorobiphenyl	80%	40-106%
1718-51-0	Terphenyl-d14	84%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-MS	X006873.D	1	07/09/09	RB	07/09/09	OP29549	SX361
OP29549-MSD	X006874.D	1	07/09/09	RB	07/09/09	OP29549	SX361
F66494-1	X006872.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Compound	F66494-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		200	94.6	47	108	54*	13	10-50/40
95-57-8	2-Chlorophenol	ND		100	84.7	85	100	100	17	44-103/29
59-50-7	4-Chloro-3-methyl phenol	ND		100	95.0	95	108	108*	13	53-105/24
120-83-2	2,4-Dichlorophenol	ND		100	94.3	94	109	109*	14	53-108/26
105-67-9	2,4-Dimethylphenol	ND		100	73.1	73	86.5	87	17	37-91/28
51-28-5	2,4-Dinitrophenol	ND		200	198	99	226	113*	13	37-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		200	201	101	217	109	8	62-115/26
95-48-7	2-Methylphenol	ND		100	75.6	76	87.2	87	14	35-91/30
	3&4-Methylphenol	ND		200	160	80	184	92*	14	32-85/29
88-75-5	2-Nitrophenol	ND		100	93.3	93	109	109	16	49-111/30
100-02-7	4-Nitrophenol	ND		200	117	59*	124	62*	6	13-55/31
87-86-5	Pentachlorophenol	ND		200	186	93	207	104	11	57-118/26
108-95-2	Phenol	ND		100	56.8	57*	64.8	65*	13	13-54/34
95-95-4	2,4,5-Trichlorophenol	ND		100	94.7	95	105	105	10	59-106/23
88-06-2	2,4,6-Trichlorophenol	ND		100	95.6	96	109	109*	13	58-107/24
83-32-9	Acenaphthene	ND		100	87.8	88	98.9	99	12	58-106/21
208-96-8	Acenaphthylene	ND		100	86.4	86	97.2	97	12	58-105/21
120-12-7	Anthracene	ND		100	84.1	84	90.4	90	7	65-108/19
92-87-5	Benzidine	ND		100	29.3	29	28.5	29	3	15-73/23
56-55-3	Benzo(a)anthracene	ND		100	89.1	89	98.8	99	10	63-111/19
50-32-8	Benzo(a)pyrene	ND		100	88.8	89	99.0	99	11	62-106/20
205-99-2	Benzo(b)fluoranthene	ND		100	93.5	94	101	101	8	63-109/20
191-24-2	Benzo(g,h,i)perylene	ND		100	85.7	86	94.6	95	10	61-111/21
207-08-9	Benzo(k)fluoranthene	ND		100	91.9	92	101	101	9	64-111/20
101-55-3	4-Bromophenyl phenyl ether	ND		100	94.5	95	104	104	10	64-107/20
85-68-7	Butyl benzyl phthalate	ND		100	96.3	96	109	109	12	59-114/20
100-51-6	Benzyl Alcohol	ND		100	82.4	82	96.1	96	15	34-98/27
91-58-7	2-Chloronaphthalene	ND		100	81.7	82	93.1	93	13	54-105/24
106-47-8	4-Chloroaniline	ND		100	86.8	87	96.6	97	11	53-103/22
218-01-9	Chrysene	ND		100	88.7	89	95.4	95	7	64-111/19
111-91-1	bis(2-Chloroethoxy)methane	ND		100	89.2	89	102	102*	13	48-101/28
111-44-4	bis(2-Chloroethyl)ether	ND		100	83.9	84	99.8	100	17	51-108/27
108-60-1	bis(2-Chloroisopropyl)ether	ND		100	102	102	119	119*	15	43-106/27
7005-72-3	4-Chlorophenyl phenyl ether	ND		100	93.5	94	103	103	10	61-107/20
95-50-1	1,2-Dichlorobenzene	ND		100	80.4	80	95.4	95	17	41-102/28
541-73-1	1,3-Dichlorobenzene	ND		100	77.7	78	91.8	92	17	38-100/28

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-MS	X006873.D	1	07/09/09	RB	07/09/09	OP29549	SX361
OP29549-MSD	X006874.D	1	07/09/09	RB	07/09/09	OP29549	SX361
F66494-1	X006872.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Compound	F66494-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-46-7	1,4-Dichlorobenzene	ND		100	79.4	79	93.2	93	16	40-100/28
121-14-2	2,4-Dinitrotoluene	ND		100	91.3	91	100	100	9	60-109/20
606-20-2	2,6-Dinitrotoluene	ND		100	85.7	86	95.7	96	11	58-104/21
91-94-1	3,3'-Dichlorobenzidine	ND		100	84.4	84	91.5	92	8	57-105/25
53-70-3	Dibenzo(a,h)anthracene	ND		100	84.0	84	93.5	94	11	62-112/20
132-64-9	Dibenzofuran	ND		100	87.9	88	96.2	96	9	61-108/20
84-74-2	Di-n-butyl phthalate	ND		100	94.4	94	104	104	10	62-109/20
117-84-0	Di-n-octyl phthalate	ND		100	93.5	94	105	105	12	60-120/24
84-66-2	Diethyl phthalate	ND		100	94.8	95	104	104	9	62-109/19
131-11-3	Dimethyl phthalate	ND		100	92.3	92	101	101	9	63-106/19
117-81-7	bis(2-Ethylhexyl)phthalate	ND		100	95.0	95	107	107	12	59-116/21
206-44-0	Fluoranthene	ND		100	91.1	91	98.3	98	8	65-114/21
86-73-7	Fluorene	ND		100	91.6	92	101	101	10	61-106/19
118-74-1	Hexachlorobenzene	ND		100	87.6	88	96.0	96	9	62-107/20
87-68-3	Hexachlorobutadiene	ND		100	84.6	85	99.3	99	16	38-107/30
77-47-4	Hexachlorocyclopentadiene	ND		100	56.6	57	73.0	73	25	19-84/35
67-72-1	Hexachloroethane	ND		100	83.0	83	100	100	19	35-101/29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		100	85.1	85	94.3	94	10	61-113/20
78-59-1	Isophorone	ND		100	78.8	79	91.2	91	15	56-111/26
91-57-6	2-Methylnaphthalene	ND		100	89.9	90	102	102	13	56-112/26
88-74-4	2-Nitroaniline	ND		100	97.5	98	106	106	8	60-109/20
99-09-2	3-Nitroaniline	ND		100	90.1	90	92.9	93	3	52-107/21
100-01-6	4-Nitroaniline	ND		100	95.5	96	102	102	7	59-111/21
91-20-3	Naphthalene	ND		100	82.3	82	93.2	93	12	50-104/28
98-95-3	Nitrobenzene	ND		100	85.8	86	98.9	99	14	52-105/28
621-64-7	N-Nitroso-di-n-propylamine	ND		100	91.7	92	107	107*	15	51-104/28
86-30-6	N-Nitrosodiphenylamine	ND		100	79.9	80	87.0	87	9	57-110/19
85-01-8	Phenanthrene	ND		100	89.9	90	98.7	99	9	65-108/20
129-00-0	Pyrene	ND		100	89.5	90	100	100	11	60-113/20
120-82-1	1,2,4-Trichlorobenzene	ND		100	80.4	80	94.6	95	16	45-104/28

CAS No.	Surrogate Recoveries	MS	MSD	F66494-1	Limits
367-12-4	2-Fluorophenol	64%*	72%*	45%	14-62%
4165-62-2	Phenol-d5	48%*	54%*	30%	10-40%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29549-MS	X006873.D	1	07/09/09	RB	07/09/09	OP29549	SX361
OP29549-MSD	X006874.D	1	07/09/09	RB	07/09/09	OP29549	SX361
F66494-1	X006872.D	1	07/09/09	RB	07/09/09	OP29549	SX361

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66494-1

CAS No.	Surrogate Recoveries	MS	MSD	F66494-1	Limits
118-79-6	2,4,6-Tribromophenol	92%	99%	92%	33-118%
4165-60-0	Nitrobenzene-d5	84%	97%	87%	42-108%
321-60-8	2-Fluorobiphenyl	77%	88%	79%	40-106%
1718-51-0	Terphenyl-d14	79%	87%	82%	39-121%

GC Semi-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: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29571-MB	XX046216.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635

The QC reported here applies to the following samples: **Method:** SW846 8082

F66494-1

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	93%	38-127%
2051-24-3	Decachlorobiphenyl	103%	25-137%

Method Blank Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29568-MB	LL26835.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66494-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	84%	42-114%

Method Blank Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29568-MB	LL26857.D	1	07/16/09	SL	07/10/09	OP29568	GLL1018

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66494-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	89%	42-114%

Blank Spike Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29571-BS	XX046215.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635

The QC reported here applies to the following samples: **Method:** SW846 8082

F66494-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	4	3.7	93	76-117
11096-82-5	Aroclor 1260	4	3.8	95	65-117

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	91%	38-127%
2051-24-3	Decachlorobiphenyl	101%	25-137%

Blank Spike Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29568-BS	LL26834.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66494-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C22)	1	0.708	71	60-140
	TPH (> C22-C36)	1	0.925	93	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	81%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29571-MS	XX046219.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635
OP29571-MSD	XX046220.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635
F66528-1	XX046218.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635

The QC reported here applies to the following samples: **Method:** SW846 8082

F66494-1

CAS No.	Compound	F66528-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		7.69	5.8	75*	5.8	75*	0	76-117/16
11096-82-5	Aroclor 1260	ND		7.69	6.8	88	6.6	86	3	65-117/23

CAS No.	Surrogate Recoveries	MS	MSD	F66528-1	Limits
877-09-8	Tetrachloro-m-xylene	71%	70%	62%	38-127%
2051-24-3	Decachlorobiphenyl	104%	102%	102%	25-137%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29568-MS	LL26840.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017
OP29568-MSD	LL26841.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017
F66528-2	LL26838.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66494-1

CAS No.	Compound	F66528-2 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	0.548		1.92	2.35	94	2.29	91	3	60-140/30
	TPH (> C22-C36)	0.149	J	1.92	2.07	100	2.03	98	2	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	F66528-2	Limits
84-15-1	o-Terphenyl	92%	91%	84%	42-114%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16649
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/09/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	1.0	.14	.15	0.0020	<1.0

Associated samples MP16649: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16649
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/09/09 07/09/09

Metal	F66465-1 Original	DUP	RPD	QC Limits	F66465-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	3.0	3	100.0	80-120

Associated samples MP16649: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.1.2

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16649
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/09/09

Metal	F66465-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	2.8	3	93.3	6.9	20

Associated samples MP16649: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.1.2

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SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16649
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/09/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	2.9	3	96.7	80-120

Associated samples MP16649: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.1.3

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SERIAL DILUTION RESULTS SUMMARY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16649
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/09/09

Metal	F66465-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16649: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.1.4

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BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16650
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/09/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	11	11	0.71	<200
Antimony	6.0	4.5	4.5	0.50	<6.0
Arsenic	10	3.6	5.4	1.5	<10
Barium	200	5	5	0.020	<200
Beryllium	4.0	1	1	-0.21	<4.0
Cadmium	5.0	1	1	-0.16	<5.0
Calcium	1000	100	100	12.2	<1000
Chromium	10	1.6	2	-0.010	<10
Cobalt	50	.83	1	0.17	<50
Copper	25	2.1	5	0.060	<25
Iron	300	23	23	0.58	<300
Lead	10	2	2	1.5	<10
Magnesium	5000	100	100	2.8	<5000
Manganese	15	.5	1	-0.050	<15
Molybdenum	50	2.8	5		
Nickel	40	2.3	2.3	-0.22	<40
Potassium	10000	100	100	229	<10000
Selenium	10	3.1	3.4	0.22	<10
Silver	10	1.2	1.4	-0.21	<10
Sodium	10000	500	500	120	<10000
Thallium	20	3.4	3.6	-5.9	<20
Tin	50	2.8	2.8		
Vanadium	50	.66	.9	-0.28	<50
Zinc	20	3.8	7.4	1.0	<20

Associated samples MP16650: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16650
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/09/09 07/09/09

Metal	F66494-1 Original	DUP	RPD	QC Limits	F66494-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	0.00	17.2	200.0(a)	0-20	0.00	32300	27000	119.6	80-120
Antimony	0.0	0.0	NC	0-20	0.0	578 (b)	500	115.6	80-120
Arsenic	17.3	15.1	13.6	0-20	17.3	2260 (b)	2000	112.1	80-120
Barium	15.0	15.3	2.0	0-20	15.0	2290	2000	113.8	80-120
Beryllium	0.0	0.0	NC	0-20	0.0	52.5	50	105.0	80-120
Cadmium	0.0	0.0	NC	0-20	0.0	51.7	50	103.4	80-120
Calcium	491000	494000	0.6	0-20	491000	585000	25000	376.0(c)	80-120
Chromium	0.0	0.0	NC	0-20	0.0	209	200	104.5	80-120
Cobalt	0.0	0.0	NC	0-20	0.0	509	500	101.8	80-120
Copper	0.0	0.0	NC	0-20	0.0	307	250	122.8N(d	80-120
Iron	0.0	0.0	NC	0-20	0.0	25100	26000	96.5	80-120
Lead	0.0	0.0	NC	0-20	0.0	544 (b)	500	108.8	80-120
Magnesium	323000	326000	0.9	0-20	323000	359000	25000	144.0(c)	80-120
Manganese	0.0	0.0	NC	0-20	0.0	533	500	106.6	80-120
Molybdenum									
Nickel	2.3	0.0	200.0(a)	0-20	2.3	509	500	101.3	80-120
Potassium	29200	29900	2.4	0-20	29200	72800	25000	174.4N(d	80-120
Selenium	28.8	25.1	13.7	0-20	28.8	2330 (b)	2000	115.1	80-120
Silver	0.0	0.0	NC	0-20	0.0	54.9	50	109.8	80-120
Sodium	501000	826000	1.2	0-20	501000	868000	25000	208.0(c)	80-120
Thallium	0.0	0.0	NC	0-20	0.0	2030	2000	101.5	80-120
Tin									
Vanadium	143	145	1.4	0-20	143	675	500	106.4	80-120
Zinc	0.0	4.4	200.0(a)	0-20	0.0	495	500	99.0	80-120

Associated samples MP16650: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.
(b) Elevated reporting limit(s) due to matrix interference.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(d) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16650
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/09/09

Metal	F66494-1 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum	0.00	31000	27000	114.8	4.1	20
Antimony	0.0	572 (a)	500	114.4	1.0	20
Arsenic	17.3	2270 (a)	2000	112.6	0.4	20
Barium	15.0	2220	2000	110.3	3.1	20
Beryllium	0.0	51.6	50	103.2	1.7	20
Cadmium	0.0	50.4	50	100.8	2.5	20
Calcium	491000	585000	25000	376.0(b)	0.0	20
Chromium	0.0	205	200	102.5	1.9	20
Cobalt	0.0	499	500	99.8	2.0	20
Copper	0.0	295	250	118.0	4.0	20
Iron	0.0	24300	26000	93.5	3.2	20
Lead	0.0	540 (a)	500	108.0	0.7	20
Magnesium	323000	351000	25000	112.0	2.3	20
Manganese	0.0	522	500	104.4	2.1	20
Molybdenum						
Nickel	2.3	500	500	99.5	1.8	20
Potassium	29200	70500	25000	165.2N(c	3.2	20
Selenium	28.8	2330 (a)	2000	115.1	0.0	20
Silver	0.0	53.5	50	107.0	2.6	20
Sodium	501000	863000	25000	188.0(b)	33.4 (d)	20
Thallium	0.0	1990	2000	99.5	2.0	20
Tin						
Vanadium	143	659	500	103.2	2.4	20
Zinc	0.0	492	500	98.4	0.6	20

Associated samples MP16650: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(c) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(d) High RPD due to possible sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16650
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/09/09

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	26900	27000	99.6	80-120
Antimony	533	500	106.6	80-120
Arsenic	2030	2000	101.5	80-120
Barium	2100	2000	105.0	80-120
Beryllium	55.3	50	110.6	80-120
Cadmium	54.9	50	109.8	80-120
Calcium	25600	25000	102.4	80-120
Chromium	219	200	109.5	80-120
Cobalt	547	500	109.4	80-120
Copper	269	250	107.6	80-120
Iron	26500	26000	101.9	80-120
Lead	545	500	109.0	80-120
Magnesium	24900	25000	99.6	80-120
Manganese	551	500	110.2	80-120
Molybdenum				
Nickel	548	500	109.6	80-120
Potassium	25500	25000	102.0	80-120
Selenium	2030	2000	101.5	80-120
Silver	49.0	50	98.0	80-120
Sodium	24800	25000	99.2	80-120
Thallium	2140	2000	107.0	80-120
Tin				
Vanadium	522	500	104.4	80-120
Zinc	546	500	109.2	80-120

Associated samples MP16650: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16650
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/09/09

Metal	F66494-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	0.00	0.00	NC	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	17.3	20.5	18.6 (a)	0-10
Barium	15.0	0.00	100.0(a)	0-10
Beryllium	0.00	0.00	NC	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	491000	585000	19.1*(b)	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.00	0.00	NC	0-10
Iron	0.00	0.00	NC	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	323000	347000	7.4	0-10
Manganese	0.00	0.00	NC	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Potassium	29200	25600	12.4*(b)	0-10
Selenium	28.8	36.7	27.4 (a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium	501000	772000	5.4	0-10
Thallium	0.00	0.00	NC	0-10
Tin				
Vanadium	143	156	8.6	0-10
Zinc	0.00	0.00	NC	0-10

Associated samples MP16650: F66494-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

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: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN35824	100	0.0	mg/l				

Associated Samples:
Batch GN35824: F66494-1
(*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F66494
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN35824	F66576-1	mg/l	5600	3900	35.8(a)	0-5%

Associated Samples:
Batch GN35824: F66494-1
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

8.2
8

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/29/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66494R

Sampling Date: 07/07/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **13**

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

Client Service contact: Jean Dent-Smith 407-425-6700

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

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Test results relate only to samples analyzed.

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Sample Summary

Nation View

Job No: F66494R

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66494-1R	07/07/09	11:30	CM	07/08/09	AQ	Ground Water	SWMU 123-MW5

Sample Results

Report of Analysis

Accutest LabLink@92225 11:09 29-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 123-MW5		
Lab Sample ID:	F66494-1R	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/08/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	CD089272.D	1	07/27/09	SL	n/a	n/a	GCD3763
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		57-129%
98-08-8	aaa-Trifluorotoluene	86%		58-120%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

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:

- Certification Exceptions
- Chain of Custody

F66494

NATIONVIEW

PO# 09-0112

Page: 1 of 1

NationView Project No: 8080014.02.020

COC Number[1]: 7/7/09

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122 + 123

Client Name: USACE

Collected by: Craig McGriff

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU 123-MW5		07-July-2009	1130	-	N		WG	14	X	X	X	X	X	X								1
2	Trip Blank		07-July-2009	1130	-	TB		WQ	2	X													1
					-																		
					-																		
					-																		
					-																		
					-																		
					-																		
					-																		

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

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	[signature]	7/7/09	1500	[signature]		
2.	[signature]	7/8/09	9:00	[signature] / Accutest	7/8/09	9:00
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Airbill Number:

Analytical Lab: Delivery Location:

Lab Recipient: Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

4.0

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 10109901 in the Equipment Blank Lot Control

F66494R: Chain of Custody

Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66494 CLIENT: NAtionwide PROJECT: Hollaman AFB

DATE/TIME RECEIVED: 7/8/09 9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 4.0

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

AIRBILL NUMBERS: 8696 4911 0749

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] 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 NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] 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 NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OF LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 7/8/09 TECHNICIAN SIGNATURE/DATE 7-8-09

ASBD 12/17/07

F66494R: Chain of Custody
Page 2 of 3

Job Change Order: F66494_7/24/2009

Requested Date:	7/24/2009	**Received Date:**	7/8/2009
Account Name:	Nation View	**Due Date:**	7/22/2009
Project Description:	Holloman AFB; SWMU 122 & 123	**Deliverable:**	COMMB
CSR:	JDS	**TAT (Days):**	2

Sample #:
F66494-1

Change: Please log and analyze for V8015GRO. Sample is to be run and analyze out of hold per request of client. Thank you.

SWMU 123-MW5

Above Changes Client Marcia Olive per telephone **Date:** 7/24/2009

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

Page 1 of 1

F66494R: Chain of Custody
Page 3 of 3

GC 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: F66494R
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3763-MB	CD089261.D	1	07/27/09	SL	n/a	n/a	GCD3763

The QC reported here applies to the following samples: **Method:** SW846 8015

F66494-1R

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	86%	57-129%
98-08-8	aaa-Trifluorotoluene	84%	58-120%

Blank Spike Summary

Job Number: F66494R
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3763-BS	CD089260.D	1	07/27/09	SL	n/a	n/a	GCD3763

The QC reported here applies to the following samples: **Method:** SW846 8015

F66494-1R

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.346	87	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	97%	57-129%
98-08-8	aaa-Trifluorotoluene	101%	58-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66494R
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66874-4MS	CD089268.D	1	07/27/09	SL	n/a	n/a	GCD3763
F66874-4MSD	CD089269.D	1	07/27/09	SL	n/a	n/a	GCD3763
F66874-4	CD089267.D	1	07/27/09	SL	n/a	n/a	GCD3763

The QC reported here applies to the following samples: **Method:** SW846 8015

F66494-1R

CAS No.	Compound	F66874-4 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		0.4	0.365	91	0.323	81	12	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F66874-4	Limits
460-00-4	4-Bromofluorobenzene	97%	93%	86%	57-129%
98-08-8	aaa-Trifluorotoluene	104%	97%	83%	58-120%

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/28/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66528

Sampling Dates: 07/07/09 - 07/08/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **101**

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

Client Service contact: Jean Dent-Smith 407-425-6700

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

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Accutest LabLink@92179 14:58 28-Jul-2009

Sample Summary

Nation View

Job No: F66528

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66528-1	07/07/09	14:50	CM	07/09/09	AQ	Ground Water	SWMU123-MW3
F66528-2	07/07/09	14:50	CM	07/09/09	AQ	Ground Water	SWMU123-MW3-A
F66528-3	07/08/09	09:00	CM	07/09/09	AQ	Ground Water	SWMU123-MW4
F66528-4	07/07/09	14:50	CM	07/09/09	AQ	Trip Blank Water	TRIP BLANK COOLER 1
F66528-5	07/07/09	14:00	CM	07/09/09	AQ	Trip Blank Water	TRIP BLANK COOLER 2
F66528-6	07/08/09	09:00	CM	07/09/09	AQ	Trip Blank Water	TRIP BLANK COOLER 3

Sample Results

Report of Analysis

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061263.D	1	07/14/09	AJ	n/a	n/a	VB2561
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	14.3	20	5.0	ug/l	J
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	0.25	1.0	0.25	ug/l	J
98-06-6	tert-Butylbenzene	0.85	1.0	0.32	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	0.50	1.0	0.20	ug/l	J
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	94%		86-112%
460-00-4	4-Bromofluorobenzene	108%		84-120%

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 LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013326.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	26	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	1.3	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.2	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.2	1.4	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.2	1.3	ug/l	
51-28-5	2,4-Dinitrophenol	ND	26	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.2	ug/l	
95-48-7	2-Methylphenol	ND	5.2	1.0	ug/l	
	3&4-Methylphenol	ND	5.2	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.2	1.4	ug/l	
100-02-7	4-Nitrophenol	ND	26	10	ug/l	
87-86-5	Pentachlorophenol	ND	26	10	ug/l	
108-95-2	Phenol	ND	5.2	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.2	1.5	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.2	1.5	ug/l	
83-32-9	Acenaphthene	ND	5.2	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.2	1.0	ug/l	
120-12-7	Anthracene	ND	5.2	1.0	ug/l	
92-87-5	Benzidine	ND	26	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.2	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.2	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.2	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.2	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.2	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.2	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.2	1.0	ug/l	
218-01-9	Chrysene	ND	5.2	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	1.0	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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.2	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.2	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.2	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.2	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.2	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.2	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.2	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	1.6	ug/l	
84-66-2	Diethyl phthalate	ND	5.2	2.1	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.9	5.2	2.1	ug/l	J
206-44-0	Fluoranthene	ND	5.2	1.0	ug/l	
86-73-7	Fluorene	ND	5.2	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.2	2.6	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.2	1.4	ug/l	
67-72-1	Hexachloroethane	ND	5.2	2.6	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.2	1.1	ug/l	
78-59-1	Isophorone	ND	5.2	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.2	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.1	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.1	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.1	ug/l	
91-20-3	Naphthalene	ND	5.2	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.2	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.2	1.0	ug/l	
129-00-0	Pyrene	ND	5.2	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.2	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		14-62%
4165-62-2	Phenol-d5	25%		10-40%
118-79-6	2,4,6-Tribromophenol	82%		33-118%

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 LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		42-108%
321-60-8	2-Fluorobiphenyl	66%		40-106%
1718-51-0	Terphenyl-d14	76%		39-121%

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 LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV035010.D	1	07/14/09	AH	n/a	n/a	GUV2016
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.0772	0.10	0.050	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	110%		57-129%
98-08-8	aaa-Trifluorotoluene	107%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046218.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	62%		38-127%
2051-24-3	Decachlorobiphenyl	102%		25-137%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26858.D	40	07/16/09	SL	07/10/09	OP29568	GLL1018
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	37.0	10	4.0	mg/l	
	TPH (> C22-C36)	ND	10	4.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% [a]		42-114%

(a) Outside control limits due to dilution.

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 LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	55 U	1000	55	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Antimony [a]	23 U	30	23	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Arsenic [a]	27 U	50	27	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Barium [a]	25 U	1000	25	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Beryllium [a]	5.0 U	20	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Cadmium [a]	5.0 U	25	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Calcium [a]	572000	5000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Chromium [a]	10 U	50	10	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Cobalt [a]	5.0 U	250	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Copper [a]	25 U	130	25	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Iron [a]	120 U	1500	120	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Lead [a]	10 U	25	10	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Magnesium [a]	135000	25000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Manganese [a]	569	75	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/14/09	07/14/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel [a]	12 U	200	12	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Potassium [a]	10500 J	50000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Selenium [a]	17 U	50	17	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Silver [a]	7.0 U	50	7.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Sodium [a]	114000	50000	2500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Thallium [a]	18 U	50	18	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Vanadium [a]	4.5 U	250	4.5	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Zinc [a]	37 U	100	37	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA7355
(2) Instrument QC Batch: MA7367
(3) Prep QC Batch: MP16657
(4) Prep QC Batch: MP16672

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3		
Lab Sample ID:	F66528-1	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	4570	1000	100	mg/l	10	07/13/09	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061264.D	1	07/14/09	AJ	n/a	n/a	VB2561
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	0.84	1.0	0.32	ug/l	J
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	0.48	1.0	0.20	ug/l	J
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

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Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	105%		84-120%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013327.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	26	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.2	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.2	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.2	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.2	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	26	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.1	ug/l	
95-48-7	2-Methylphenol	ND	5.2	1.0	ug/l	
	3&4-Methylphenol	ND	5.2	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.2	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	26	10	ug/l	
87-86-5	Pentachlorophenol	ND	26	10	ug/l	
108-95-2	Phenol	ND	5.2	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.2	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.2	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.2	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.2	1.0	ug/l	
120-12-7	Anthracene	ND	5.2	1.0	ug/l	
92-87-5	Benzidine	ND	26	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.2	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.2	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.2	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.2	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.2	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.2	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.2	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.2	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.2	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.2	1.0	ug/l	
218-01-9	Chrysene	ND	5.2	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.2	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.2	1.0	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:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.2	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.2	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.2	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.2	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.2	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.2	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.2	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.2	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.2	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.2	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.2	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.2	2.1	ug/l	
131-11-3	Dimethyl phthalate	ND	5.2	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.2	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.2	1.0	ug/l	
86-73-7	Fluorene	ND	5.2	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.2	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.2	2.6	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.2	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.2	2.6	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.2	1.1	ug/l	
78-59-1	Isophorone	ND	5.2	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.2	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.1	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.1	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.1	ug/l	
91-20-3	Naphthalene	ND	5.2	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.2	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.2	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.2	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.2	1.0	ug/l	
129-00-0	Pyrene	ND	5.2	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.2	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		14-62%
4165-62-2	Phenol-d5	28%		10-40%
118-79-6	2,4,6-Tribromophenol	77%		33-118%

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:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		42-108%
321-60-8	2-Fluorobiphenyl	67%		40-106%
1718-51-0	Terphenyl-d14	72%		39-121%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV035011.D	1	07/14/09	AH	n/a	n/a	GUV2016
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.0823	0.10	0.050	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	105%		57-129%
98-08-8	aaa-Trifluorotoluene	107%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046221.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	68%		38-127%
2051-24-3	Decachlorobiphenyl	103%		25-137%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26838.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	0.548	0.25	0.10	mg/l	
	TPH (> C22-C36)	0.149	0.25	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	84%		42-114%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	55 U	1000	55	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Antimony [a]	23 U	30	23	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Arsenic [a]	27 U	50	27	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Barium [a]	25 U	1000	25	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Beryllium [a]	5.0 U	20	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Cadmium [a]	5.0 U	25	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Calcium [a]	638000	5000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Chromium [a]	10 U	50	10	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Cobalt [a]	5.0 U	250	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Copper [a]	25 U	130	25	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Iron [a]	120 U	1500	120	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Lead [a]	10 U	25	10	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Magnesium [a]	150000	25000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Manganese [a]	666	75	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/14/09	07/14/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel [a]	12 U	200	12	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Potassium [a]	11600 J	50000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Selenium [a]	17 U	50	17	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Silver [a]	7.0 U	50	7.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Sodium [a]	128000	50000	2500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Thallium [a]	18 U	50	18	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Vanadium [a]	4.5 U	250	4.5	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]
Zinc [a]	37 U	100	37	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA7355
(2) Instrument QC Batch: MA7367
(3) Prep QC Batch: MP16657
(4) Prep QC Batch: MP16672

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU123-MW3-A		
Lab Sample ID:	F66528-2	**Date Sampled:**	07/07/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	3830	1000	100	mg/l	10	07/13/09	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061265.D	1	07/14/09	AJ	n/a	n/a	VB2561
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	0.67	1.0	0.28	ug/l	J
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	108%		76-127%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013328.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.1	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.1	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.1	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.1	1.0	ug/l	
	3&4-Methylphenol	ND	5.1	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.1	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.1	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.1	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.1	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.1	1.0	ug/l	
120-12-7	Anthracene	ND	5.1	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.1	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.1	1.0	ug/l	
218-01-9	Chrysene	ND	5.1	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	1.0	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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.1	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.1	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.1	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.1	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.1	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.1	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.1	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.1	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.1	1.0	ug/l	
86-73-7	Fluorene	ND	5.1	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.1	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.1	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.1	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	1.1	ug/l	
78-59-1	Isophorone	ND	5.1	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.1	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.1	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.1	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.1	1.0	ug/l	
129-00-0	Pyrene	ND	5.1	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		14-62%
4165-62-2	Phenol-d5	30%		10-40%
118-79-6	2,4,6-Tribromophenol	72%		33-118%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		42-108%
321-60-8	2-Fluorobiphenyl	62%		40-106%
1718-51-0	Terphenyl-d14	74%		39-121%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV035012.D	1	07/14/09	AH	n/a	n/a	GUV2016
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		57-129%
98-08-8	aaa-Trifluorotoluene	98%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046222.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	94%		38-127%
2051-24-3	Decachlorobiphenyl	96%		25-137%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26839.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		42-114%

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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	55 U	1000	55	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Antimony [a]	23 U	30	23	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Arsenic [a]	29.0 J	50	27	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Barium [a]	25 U	1000	25	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Beryllium [a]	5.0 U	20	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Cadmium [a]	5.0 U	25	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Calcium [a]	633000	5000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Chromium [a]	10 U	50	10	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Cobalt [a]	5.0 U	250	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Copper [a]	25 U	130	25	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Iron [a]	2400 U	3000	2400	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Lead [a]	10 U	25	10	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Magnesium [a]	413000	25000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Manganese [a]	5.0 U	75	5.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [1]	SW846 7470A [5]
Nickel [a]	12 U	200	12	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Potassium [a]	38700 J	50000	500	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Selenium [a]	26.5 J	50	17	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Silver [a]	7.0 U	50	7.0	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Sodium	758000	200000	10000	ug/l	20	07/10/09	07/17/09	RS	SW846 6010B [3]	SW846 3010A [4]
Thallium [a]	18 U	50	18	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Vanadium [a]	85.7 J	250	4.5	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]
Zinc [a]	37 U	100	37	ug/l	5	07/10/09	07/16/09	RS	SW846 6010B [2]	SW846 3010A [4]

(1) Instrument QC Batch: MA7365
(2) Instrument QC Batch: MA7367
(3) Instrument QC Batch: MA7370
(4) Prep QC Batch: MP16657
(5) Prep QC Batch: MP16684

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU123-MW4		
Lab Sample ID:	F66528-3	**Date Sampled:**	07/08/09
Matrix:	AQ - Ground Water	**Date Received:**	07/09/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	5190	1000	100	mg/l	10	07/13/09	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	TRIP BLANK COOLER 1		
Lab Sample ID:	F66528-4	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061266.D	1	07/14/09	AJ	n/a	n/a	VB2561
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK COOLER 1		
Lab Sample ID:	F66528-4	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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 COOLER 1		
Lab Sample ID:	F66528-4	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	110%		84-120%

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

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Report of Analysis

Client Sample ID:	TRIP BLANK COOLER 2		
Lab Sample ID:	F66528-5	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061267.D	1	07/14/09	AJ	n/a	n/a	VB2561
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

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Report of Analysis

Client Sample ID:	TRIP BLANK COOLER 2		
Lab Sample ID:	F66528-5	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

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Report of Analysis

Client Sample ID:	TRIP BLANK COOLER 2		
Lab Sample ID:	F66528-5	**Date Sampled:**	07/07/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

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 LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK COOLER 3		
Lab Sample ID:	F66528-6	**Date Sampled:**	07/08/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061268.D	1	07/14/09	AJ	n/a	n/a	VB2561
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK COOLER 3		
Lab Sample ID:	F66528-6	**Date Sampled:**	07/08/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	1.0	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 14:58 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK COOLER 3		
Lab Sample ID:	F66528-6	**Date Sampled:**	07/08/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/09/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	108%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

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:

- Certification Exceptions
- Chain of Custody

NATIONVIEW

PO # 09-0112 F66528

Page: 1 of 1

NationView Project No: 8080014.02.020

COC Number[1]: 7/8/09

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122/123

Client Name: USACE

Collected by: Craig McGriff

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU123-MW3		07-Jul-2009	1450	-	N		WG	14	X	X	X	X	X	X								1
2	SWMU123-MW3-a		07-Jul-2009	1450	-	FD		WG	14	X	X	X	X	X	X								2
3	SWMU123-MW4		08-Jul-2009	0900	-	N		WG	14	X	X	X	X	X	X								3
4	Trip Blank-Cooler 1		07-July-2009	1450		TB		WQ	2	X													1
5	Trip Blank-Cooler 2		07-July-2009	1450		TB		WQ	2	X													2
6	Trip Blank-Cooler 3		08-July-2009	0900	-	TB		WQ	2	X													3
					-																		
					-																		
					-																		
					-																		
					-																		

Sample Analysis Requested [5]

Quality Assurance Samples [6]

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	[signature]	7/8/09	1500	1. [signature]	7-9-09	0900
2.				2.		
3.				3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Airbill Number:

Analytical Lab. Delivery Location:

Lab Recipient: Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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 10109901 in the Equipment Blank Lot Control

2-4 2-8

F66528: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66528 CLIENT: Nationwide PROJECT: Holloman AFB

DATE/TIME RECEIVED: 7-9-09 09:00 # OF COOLERS RECEIVED: 3 COOLER TEMPS: 2.4 2.8 2.0

METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8696 4911 0793

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] 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 NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] 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 NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OF LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE F.T. 7-9-09 TECHNICIAN SIGNATURE/DATE CLR 7/9/09

ASBD 12/17/07

F66528: Chain of Custody
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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: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2561-MB	B061261.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2561-MB	B061261.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2561-MB	B061261.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	107%	76-127%
2037-26-5	Toluene-D8	96%	86-112%
460-00-4	4-Bromofluorobenzene	111%	84-120%

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2561-BS	B061262.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	122	98	59-134
107-02-8	Acrolein	125	62.2	50	33-157
107-13-1	Acrylonitrile	125	156	125*	62-124
71-43-2	Benzene	25	29.6	118	83-124
108-86-1	Bromobenzene	25	22.3	89	83-115
74-97-5	Bromochloromethane	25	26.0	104	78-112
75-27-4	Bromodichloromethane	25	28.0	112	76-116
75-25-2	Bromoform	25	21.9	88	68-128
104-51-8	n-Butylbenzene	25	27.7	111	84-124
135-98-8	sec-Butylbenzene	25	26.7	107	86-127
98-06-6	tert-Butylbenzene	25	25.5	102	83-126
108-90-7	Chlorobenzene	25	25.2	101	87-115
75-00-3	Chloroethane	25	34.7	139	54-166
67-66-3	Chloroform	25	29.3	117	85-123
95-49-8	o-Chlorotoluene	25	24.9	100	84-121
106-43-4	p-Chlorotoluene	25	24.3	97	84-120
110-75-8	2-Chloroethyl vinyl ether	125	120	96	63-125
75-15-0	Carbon disulfide	25	26.5	106	67-147
56-23-5	Carbon tetrachloride	25	31.8	127	74-139
75-34-3	1,1-Dichloroethane	25	29.8	119	82-127
75-35-4	1,1-Dichloroethylene	25	28.2	113	75-133
563-58-6	1,1-Dichloropropene	25	30.1	120	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	20.2	81	61-118
106-93-4	1,2-Dibromoethane	25	23.8	95	80-115
107-06-2	1,2-Dichloroethane	25	27.0	108	76-122
78-87-5	1,2-Dichloropropane	25	28.3	113	81-120
142-28-9	1,3-Dichloropropane	25	24.3	97	81-113
594-20-7	2,2-Dichloropropane	25	33.0	132	77-138
124-48-1	Dibromochloromethane	25	22.3	89	74-116
75-71-8	Dichlorodifluoromethane	25	24.6	98	34-158
156-59-2	cis-1,2-Dichloroethylene	25	26.7	107	81-114
10061-01-5	cis-1,3-Dichloropropene	25	30.3	121*	83-119
541-73-1	m-Dichlorobenzene	25	24.6	98	86-115
95-50-1	o-Dichlorobenzene	25	23.8	95	85-115
106-46-7	p-Dichlorobenzene	25	23.1	92	87-113
156-60-5	trans-1,2-Dichloroethylene	25	29.4	118	82-126

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2561-BS	B061262.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	25	24.9	100	87-123
100-41-4	Ethylbenzene	25	27.1	108	87-118
591-78-6	2-Hexanone	125	104	83	58-125
87-68-3	Hexachlorobutadiene	25	24.8	99	71-133
110-54-3	Hexane	25	31.2	125	71-134
98-82-8	Isopropylbenzene	25	26.2	105	87-131
99-87-6	p-Isopropyltoluene	25	26.4	106	83-125
108-10-1	4-Methyl-2-pentanone	125	130	104	62-125
74-83-9	Methyl bromide	25	33.3	133	55-151
74-87-3	Methyl chloride	25	33.2	133	55-173
74-95-3	Methylene bromide	25	27.7	111	81-116
75-09-2	Methylene chloride	25	25.8	103	69-125
78-93-3	Methyl ethyl ketone	125	129	103	61-127
1634-04-4	Methyl Tert Butyl Ether	25	28.2	113	75-116
91-20-3	Naphthalene	25	20.0	80	59-125
103-65-1	n-Propylbenzene	25	26.2	105	86-125
100-42-5	Styrene	25	23.7	95	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	23.6	94	81-119
71-55-6	1,1,1-Trichloroethane	25	31.6	126	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	23.4	94	71-120
79-00-5	1,1,2-Trichloroethane	25	24.4	98	80-114
87-61-6	1,2,3-Trichlorobenzene	25	20.6	82	64-126
96-18-4	1,2,3-Trichloropropane	25	20.6	82	77-115
120-82-1	1,2,4-Trichlorobenzene	25	21.6	86	68-123
95-63-6	1,2,4-Trimethylbenzene	25	25.1	100	82-120
108-67-8	1,3,5-Trimethylbenzene	25	25.4	102	83-123
127-18-4	Tetrachloroethylene	25	25.1	100	80-131
108-88-3	Toluene	25	26.5	106	86-116
79-01-6	Trichloroethylene	25	28.1	112	85-124
75-69-4	Trichlorofluoromethane	25	36.3	145	66-156
75-01-4	Vinyl chloride	25	35.7	143	57-153
108-05-4	Vinyl Acetate	125	178	142	38-159
	m,p-Xylene	50	56.3	113	86-121
95-47-6	o-Xylene	25	26.4	106	83-121

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2561-BS	B061262.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	87-116%
17060-07-0	1,2-Dichloroethane-D4	103%	76-127%
2037-26-5	Toluene-D8	94%	86-112%
460-00-4	4-Bromofluorobenzene	96%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66575-1MS	B061271.D	1	07/14/09	AJ	n/a	n/a	VB2561
F66575-1MSD	B061272.D	1	07/14/09	AJ	n/a	n/a	VB2561
F66575-1	B061269.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Compound	F66575-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	98.9	79	101	81	2	59-134/14
107-02-8	Acrolein	ND		125	55.4	44	55.3	44	0	33-157/21
107-13-1	Acrylonitrile	ND		125	149	119	152	122	2	62-124/13
71-43-2	Benzene	ND		25	30.0	120	29.5	118	2	83-124/11
108-86-1	Bromobenzene	ND		25	21.2	85	21.5	86	1	83-115/10
74-97-5	Bromochloromethane	ND		25	25.7	103	25.7	103	0	78-112/10
75-27-4	Bromodichloromethane	ND		25	26.9	108	27.0	108	0	76-116/10
75-25-2	Bromoform	ND		25	20.9	84	21.8	87	4	68-128/11
104-51-8	n-Butylbenzene	ND		25	26.4	106	26.2	105	1	84-124/10
135-98-8	sec-Butylbenzene	ND		25	25.4	102	25.0	100	2	86-127/10
98-06-6	tert-Butylbenzene	ND		25	24.0	96	24.0	96	0	83-126/10
108-90-7	Chlorobenzene	ND		25	24.1	96	24.1	96	0	87-115/9
75-00-3	Chloroethane	ND		25	35.4	142	34.4	138	3	54-166/20
67-66-3	Chloroform	ND		25	29.2	117	28.7	115	2	85-123/10
95-49-8	o-Chlorotoluene	ND		25	23.6	94	23.7	95	0	84-121/10
106-43-4	p-Chlorotoluene	ND		25	23.2	93	23.1	92	0	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		25	28.9	116	28.3	113	2	67-147/12
56-23-5	Carbon tetrachloride	ND		25	32.0	128	31.4	126	2	74-139/13
75-34-3	1,1-Dichloroethane	ND		25	30.4	122	29.8	119	2	82-127/10
75-35-4	1,1-Dichloroethylene	ND		25	30.2	121	29.1	116	4	75-133/13
563-58-6	1,1-Dichloropropene	ND		25	30.0	120	29.6	118	1	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	19.3	77	19.7	79	2	61-118/15
106-93-4	1,2-Dibromoethane	ND		25	22.8	91	23.2	93	2	80-115/10
107-06-2	1,2-Dichloroethane	ND		25	26.5	106	26.4	106	0	76-122/11
78-87-5	1,2-Dichloropropane	ND		25	27.8	111	28.0	112	1	81-120/11
142-28-9	1,3-Dichloropropane	ND		25	23.4	94	23.8	95	2	81-113/11
594-20-7	2,2-Dichloropropane	ND		25	32.5	130	32.2	129	1	77-138/12
124-48-1	Dibromochloromethane	ND		25	21.0	84	21.6	86	3	74-116/11
75-71-8	Dichlorodifluoromethane	ND		25	23.6	94	25.0	100	6	34-158/22
156-59-2	cis-1,2-Dichloroethylene	ND		25	26.4	106	26.3	105	0	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	29.2	117	29.2	117	0	83-119/10
541-73-1	m-Dichlorobenzene	ND		25	23.4	94	22.8	91	3	86-115/9
95-50-1	o-Dichlorobenzene	ND		25	22.5	90	22.7	91	1	85-115/9
106-46-7	p-Dichlorobenzene	ND		25	22.1	88	22.3	89	1	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		25	30.1	120	29.1	116	3	82-126/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66575-1MS	B061271.D	1	07/14/09	AJ	n/a	n/a	VB2561
F66575-1MSD	B061272.D	1	07/14/09	AJ	n/a	n/a	VB2561
F66575-1	B061269.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Compound	F66575-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		25	23.6	94	24.4	98	3	87-123/10
100-41-4	Ethylbenzene	ND		25	26.2	105	26.0	104	1	87-118/10
591-78-6	2-Hexanone	ND		125	97.5	78	101	81	4	58-125/14
87-68-3	Hexachlorobutadiene	ND		25	22.3	89	23.0	92	3	71-133/12
110-54-3	Hexane	ND		25	32.6	130	33.4	134	2	71-134/11
98-82-8	Isopropylbenzene	ND		25	24.5	98	24.7	99	1	87-131/10
99-87-6	p-Isopropyltoluene	ND		25	24.9	100	24.6	98	1	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		125	136	109	137	110	1	62-125/13
74-83-9	Methyl bromide	ND		25	34.0	136	33.1	132	3	55-151/21
74-87-3	Methyl chloride	ND		25	33.2	133	33.0	132	1	55-173/22
74-95-3	Methylene bromide	ND		25	27.6	110	27.8	111	1	81-116/10
75-09-2	Methylene chloride	ND		25	26.9	108	26.6	106	1	69-125/11
78-93-3	Methyl ethyl ketone	ND		125	122	98	124	99	2	61-127/13
1634-04-4	Methyl Tert Butyl Ether	ND		25	27.5	110	28.1	112	2	75-116/10
91-20-3	Naphthalene	ND		25	17.5	70	21.1	84	19*	59-125/15
103-65-1	n-Propylbenzene	ND		25	24.8	99	24.7	99	0	86-125/10
100-42-5	Styrene	ND		25	22.4	90	22.3	89	0	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	22.5	90	22.4	90	0	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		25	30.8	123	31.0	124	1	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	22.3	89	23.3	93	4	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		25	23.4	94	23.8	95	2	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		25	18.4	74	22.8	91	21*	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		25	19.6	78	20.6	82	5	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		25	20.2	81	21.2	85	5	68-123/11
95-63-6	1,2,4-Trimethylbenzene	ND		25	23.6	94	23.7	95	0	82-120/10
108-67-8	1,3,5-Trimethylbenzene	ND		25	23.8	95	24.0	96	1	83-123/10
127-18-4	Tetrachloroethylene	ND		25	23.6	94	23.6	94	0	80-131/12
108-88-3	Toluene	ND		25	25.1	100	25.7	103	2	86-116/10
79-01-6	Trichloroethylene	ND		25	27.5	110	27.5	110	0	85-124/10
75-69-4	Trichlorofluoromethane	ND		25	37.1	148	37.6	150	1	66-156/15
75-01-4	Vinyl chloride	ND		25	35.1	140	35.1	140	0	57-153/22
108-05-4	Vinyl Acetate	ND		125	170	136	170	136	0	38-159/11
	m,p-Xylene	ND		50	53.9	108	53.4	107	1	86-121/10
95-47-6	o-Xylene	ND		25	25.5	102	25.1	100	2	83-121/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66575-1MS	B061271.D	1	07/14/09	AJ	n/a	n/a	VB2561
F66575-1MSD	B061272.D	1	07/14/09	AJ	n/a	n/a	VB2561
F66575-1	B061269.D	1	07/14/09	AJ	n/a	n/a	VB2561

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

F66528-1, F66528-2, F66528-3, F66528-4, F66528-5, F66528-6

CAS No.	Surrogate Recoveries	MS	MSD	F66575-1	Limits
1868-53-7	Dibromofluoromethane	104%	103%	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	104%	105%	100%	76-127%
2037-26-5	Toluene-D8	92%	94%	96%	86-112%
460-00-4	4-Bromofluorobenzene	95%	97%	110%	84-120%

GC/MS Semi-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: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	40%	14-62%
4165-62-2	Phenol-d5	26%	10-40%

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	73%	33-118%
4165-60-0	Nitrobenzene-d5	72%	42-108%
321-60-8	2-Fluorobiphenyl	73%	40-106%
1718-51-0	Terphenyl-d14	71%	39-121%

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	14-62%
4165-62-2	Phenol-d5	23%	10-40%

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	73%	33-118%
4165-60-0	Nitrobenzene-d5	60%	42-108%
321-60-8	2-Fluorobiphenyl	66%	40-106%
1718-51-0	Terphenyl-d14	59%	39-121%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
110-82-7	Cyclohexane	1.26	10	ug/l	JN
	Total TIC, Semi-Volatile		10	ug/l	J

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-57-8	2-Chlorophenol	50	38.8	78	44-103
59-50-7	4-Chloro-3-methyl phenol	50	41.1	82	53-105
120-83-2	2,4-Dichlorophenol	50	43.2	86	53-108
105-67-9	2,4-Dimethylphenol	50	30.9	62	37-91
51-28-5	2,4-Dinitrophenol	100	75.6	76	37-111
534-52-1	4,6-Dinitro-o-cresol	100	95.1	95	62-115
95-48-7	2-Methylphenol	50	31.4	63	35-91
	3&4-Methylphenol	100	56.8	57	32-85
88-75-5	2-Nitrophenol	50	43.8	88	49-111
100-02-7	4-Nitrophenol	100	28.5	29	13-55
87-86-5	Pentachlorophenol	100	85.9	86	57-118
108-95-2	Phenol	50	16.6	33	13-54
95-95-4	2,4,5-Trichlorophenol	50	42.1	84	59-106
88-06-2	2,4,6-Trichlorophenol	50	43.8	88	58-107
83-32-9	Acenaphthene	50	41.1	82	58-106
208-96-8	Acenaphthylene	50	39.9	80	58-105
120-12-7	Anthracene	50	39.2	78	65-108
92-87-5	Benzidine	50	23.4	47	15-73
56-55-3	Benzo(a)anthracene	50	42.0	84	63-111
50-32-8	Benzo(a)pyrene	50	41.4	83	62-106
205-99-2	Benzo(b)fluoranthene	50	43.4	87	63-109
191-24-2	Benzo(g,h,i)perylene	50	43.9	88	61-111
207-08-9	Benzo(k)fluoranthene	50	43.4	87	64-111
101-55-3	4-Bromophenyl phenyl ether	50	43.2	86	64-107
85-68-7	Butyl benzyl phthalate	50	43.8	88	59-114
100-51-6	Benzyl Alcohol	50	31.4	63	34-98
91-58-7	2-Chloronaphthalene	50	38.0	76	54-105
106-47-8	4-Chloroaniline	50	38.7	77	53-103
218-01-9	Chrysene	50	43.0	86	64-111
111-91-1	bis(2-Chloroethoxy)methane	50	42.7	85	48-101
111-44-4	bis(2-Chloroethyl)ether	50	41.3	83	51-108
108-60-1	bis(2-Chloroisopropyl)ether	50	41.9	84	43-106
7005-72-3	4-Chlorophenyl phenyl ether	50	42.5	85	61-107
95-50-1	1,2-Dichlorobenzene	50	30.2	60	41-102
541-73-1	1,3-Dichlorobenzene	50	28.8	58	38-100
106-46-7	1,4-Dichlorobenzene	50	29.2	58	40-100

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
121-14-2	2,4-Dinitrotoluene	50	40.0	80	60-109
606-20-2	2,6-Dinitrotoluene	50	39.5	79	58-104
91-94-1	3,3'-Dichlorobenzidine	50	40.7	81	57-105
53-70-3	Dibenzo(a,h)anthracene	50	43.2	86	62-112
132-64-9	Dibenzofuran	50	38.8	78	61-108
84-74-2	Di-n-butyl phthalate	50	43.0	86	62-109
117-84-0	Di-n-octyl phthalate	50	44.5	89	60-120
84-66-2	Diethyl phthalate	50	43.1	86	62-109
131-11-3	Dimethyl phthalate	50	43.1	86	63-106
117-81-7	bis(2-Ethylhexyl)phthalate	50	44.0	88	59-116
206-44-0	Fluoranthene	50	41.4	83	65-114
86-73-7	Fluorene	50	41.7	83	61-106
118-74-1	Hexachlorobenzene	50	40.2	80	62-107
87-68-3	Hexachlorobutadiene	50	29.8	60	38-107
77-47-4	Hexachlorocyclopentadiene	50	28.3	57	19-84
67-72-1	Hexachloroethane	50	26.7	53	35-101
193-39-5	Indeno(1,2,3-cd)pyrene	50	42.2	84	61-113
78-59-1	Isophorone	50	37.3	75	56-111
91-57-6	2-Methylnaphthalene	50	38.1	76	56-112
88-74-4	2-Nitroaniline	50	46.8	94	60-109
99-09-2	3-Nitroaniline	50	40.7	81	52-107
100-01-6	4-Nitroaniline	50	40.9	82	59-111
91-20-3	Naphthalene	50	35.6	71	50-104
98-95-3	Nitrobenzene	50	39.2	78	52-105
621-64-7	N-Nitroso-di-n-propylamine	50	38.1	76	51-104
86-30-6	N-Nitrosodiphenylamine	50	38.0	76	57-110
85-01-8	Phenanthrene	50	43.1	86	65-108
129-00-0	Pyrene	50	42.7	85	60-113
120-82-1	1,2,4-Trichlorobenzene	50	31.5	63	45-104

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	42%	14-62%
4165-62-2	Phenol-d5	27%	10-40%
118-79-6	2,4,6-Tribromophenol	78%	33-118%

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	78%	42-108%
321-60-8	2-Fluorobiphenyl	76%	40-106%
1718-51-0	Terphenyl-d14	74%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		96.2	80.0	83	76.9	80	4	44-103/29
59-50-7	4-Chloro-3-methyl phenol	ND		96.2	87.7	91	84.6	88	4	53-105/24
120-83-2	2,4-Dichlorophenol	ND		96.2	88.0	92	86.4	90	2	53-108/26
105-67-9	2,4-Dimethylphenol	ND		96.2	68.3	71	66.0	69	3	37-91/28
51-28-5	2,4-Dinitrophenol	ND		192	163	85	160	83	2	37-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		192	191	99	191	99	0	62-115/26
95-48-7	2-Methylphenol	ND		96.2	72.4	75	68.4	71	6	35-91/30
	3&4-Methylphenol	ND		192	146	76	135	70	8	32-85/29
88-75-5	2-Nitrophenol	ND		96.2	86.4	90	83.7	87	3	49-111/30
100-02-7	4-Nitrophenol	ND		192	110	57*	94.4	49	15	13-55/31
87-86-5	Pentachlorophenol	ND		192	172	89	176	92	2	57-118/26
108-95-2	Phenol	ND		96.2	55.7	58*	47.9	50	15	13-54/34
95-95-4	2,4,5-Trichlorophenol	ND		96.2	86.0	89	86.1	90	0	59-106/23
88-06-2	2,4,6-Trichlorophenol	ND		96.2	87.6	91	88.0	92	0	58-107/24
83-32-9	Acenaphthene	ND		96.2	85.1	89	84.2	88	1	58-106/21
208-96-8	Acenaphthylene	ND		96.2	82.1	85	81.7	85	0	58-105/21
120-12-7	Anthracene	ND		96.2	80.0	83	80.6	84	1	65-108/19
92-87-5	Benzidine	ND		96.2	ND	0*	ND	0*	nc	15-73/23
56-55-3	Benzo(a)anthracene	ND		96.2	85.9	89	87.1	91	1	63-111/19
50-32-8	Benzo(a)pyrene	ND		96.2	85.5	89	84.3	88	1	62-106/20
205-99-2	Benzo(b)fluoranthene	ND		96.2	90.3	94	87.1	91	4	63-109/20
191-24-2	Benzo(g,h,i)perylene	ND		96.2	89.8	93	90.4	94	1	61-111/21
207-08-9	Benzo(k)fluoranthene	ND		96.2	88.4	92	90.9	95	3	64-111/20
101-55-3	4-Bromophenyl phenyl ether	ND		96.2	89.0	93	91.2	95	2	64-107/20
85-68-7	Butyl benzyl phthalate	ND		96.2	90.6	94	89.5	93	1	59-114/20
100-51-6	Benzyl Alcohol	ND		96.2	76.5	80	70.7	74	8	34-98/27
91-58-7	2-Chloronaphthalene	ND		96.2	79.7	83	79.3	82	1	54-105/24
106-47-8	4-Chloroaniline	ND		96.2	73.9	77	69.9	73	6	53-103/22
218-01-9	Chrysene	ND		96.2	87.0	90	88.2	92	1	64-111/19
111-91-1	bis(2-Chloroethoxy)methane	ND		96.2	84.1	87	82.8	86	2	48-101/28
111-44-4	bis(2-Chloroethyl)ether	ND		96.2	80.7	84	79.6	83	1	51-108/27
108-60-1	bis(2-Chloroisopropyl)ether	ND		96.2	82.0	85	80.8	84	1	43-106/27
7005-72-3	4-Chlorophenyl phenyl ether	ND		96.2	87.8	91	87.6	91	0	61-107/20
95-50-1	1,2-Dichlorobenzene	ND		96.2	75.4	78	73.6	77	2	41-102/28
541-73-1	1,3-Dichlorobenzene	ND		96.2	74.1	77	72.3	75	2	38-100/28
106-46-7	1,4-Dichlorobenzene	ND		96.2	74.1	77	72.0	75	3	40-100/28

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	ND		96.2	81.9	85	80.0	83	2	60-109/20
606-20-2	2,6-Dinitrotoluene	ND		96.2	81.3	85	81.1	84	0	58-104/21
91-94-1	3,3'-Dichlorobenzidine	ND		96.2	67.9	71	66.6	69	2	57-105/25
53-70-3	Dibenzo(a,h)anthracene	ND		96.2	89.0	93	90.4	94	2	62-112/20
132-64-9	Dibenzofuran	ND		96.2	81.4	85	80.8	84	1	61-108/20
84-74-2	Di-n-butyl phthalate	ND		96.2	89.1	93	89.2	93	0	62-109/20
117-84-0	Di-n-octyl phthalate	ND		96.2	92.3	96	90.7	94	2	60-120/24
84-66-2	Diethyl phthalate	2.1	J	96.2	91.0	92	90.4	92	1	62-109/19
131-11-3	Dimethyl phthalate	ND		96.2	89.3	93	88.5	92	1	63-106/19
117-81-7	bis(2-Ethylhexyl)phthalate	ND		96.2	91.4	95	92.2	96	1	59-116/21
206-44-0	Fluoranthene	ND		96.2	85.2	89	86.6	90	2	65-114/21
86-73-7	Fluorene	ND		96.2	86.1	90	85.5	89	1	61-106/19
118-74-1	Hexachlorobenzene	ND		96.2	82.5	86	83.8	87	2	62-107/20
87-68-3	Hexachlorobutadiene	ND		96.2	76.9	80	76.6	80	0	38-107/30
77-47-4	Hexachlorocyclopentadiene	ND		96.2	63.6	66	64.0	67	1	19-84/35
67-72-1	Hexachloroethane	ND		96.2	71.7	75	70.9	74	1	35-101/29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		96.2	88.3	92	88.4	92	0	61-113/20
78-59-1	Isophorone	ND		96.2	73.7	77	72.6	76	2	56-111/26
91-57-6	2-Methylnaphthalene	ND		96.2	82.0	85	80.3	84	2	56-112/26
88-74-4	2-Nitroaniline	ND		96.2	95.4	99	94.5	98	1	60-109/20
99-09-2	3-Nitroaniline	ND		96.2	78.2	81	75.9	79	3	52-107/21
100-01-6	4-Nitroaniline	ND		96.2	80.7	84	79.5	83	1	59-111/21
91-20-3	Naphthalene	ND		96.2	79.1	82	77.2	80	2	50-104/28
98-95-3	Nitrobenzene	ND		96.2	77.9	81	76.5	80	2	52-105/28
621-64-7	N-Nitroso-di-n-propylamine	ND		96.2	75.5	79	71.9	75	5	51-104/28
86-30-6	N-Nitrosodiphenylamine	ND		96.2	77.4	80	77.8	81	1	57-110/19
85-01-8	Phenanthrene	ND		96.2	87.6	91	88.9	92	1	65-108/20
129-00-0	Pyrene	ND		96.2	86.0	89	87.6	91	2	60-113/20
120-82-1	1,2,4-Trichlorobenzene	ND		96.2	75.7	79	74.4	77	2	45-104/28

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
367-12-4	2-Fluorophenol	62%	57%	43%	14-62%
4165-62-2	Phenol-d5	51%*	43%*	28%	10-40%
118-79-6	2,4,6-Tribromophenol	81%	84%	81%	33-118%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66528-1, F66528-2, F66528-3

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
4165-60-0	Nitrobenzene-d5	77%	78%	74%	42-108%
321-60-8	2-Fluorobiphenyl	79%	79%	73%	40-106%
1718-51-0	Terphenyl-d14	77%	79%	75%	39-121%

GC 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: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV2016-MB	UV035009.D	1	07/14/09	AH	n/a	n/a	GUV2016

The QC reported here applies to the following samples: **Method:** SW846 8015

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	82%	57-129%
98-08-8	aaa-Trifluorotoluene	92%	58-120%

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV2016-BS	UV035008.D	1	07/14/09	AH	n/a	n/a	GUV2016

The QC reported here applies to the following samples: **Method:** SW846 8015

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.343	86	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	96%	57-129%
98-08-8	aaa-Trifluorotoluene	97%	58-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66528-1MS	UV035026.D	1	07/14/09	AH	n/a	n/a	GUV2016
F66528-1MSD	UV035027.D	1	07/15/09	AH	n/a	n/a	GUV2016
F66528-1	UV035010.D	1	07/14/09	AH	n/a	n/a	GUV2016

The QC reported here applies to the following samples: **Method:** SW846 8015

F66528-1, F66528-2, F66528-3

CAS No.	Compound	F66528-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.0772	J	0.4	0.407	82	0.401	81	1	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F66528-1	Limits
460-00-4	4-Bromofluorobenzene	101%	101%	110%	57-129%
98-08-8	aaa-Trifluorotoluene	91%	90%	107%	58-120%

GC Semi-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: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29571-MB	XX046216.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635

The QC reported here applies to the following samples: **Method:** SW846 8082

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	93%	38-127%
2051-24-3	Decachlorobiphenyl	103%	25-137%

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29568-MB	LL26835.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	84%	42-114%

Method Blank Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29568-MB	LL26857.D	1	07/16/09	SL	07/10/09	OP29568	GLL1018

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	89%	42-114%

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29571-BS	XX046215.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635

The QC reported here applies to the following samples: **Method:** SW846 8082

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	4	3.7	93	76-117
11096-82-5	Aroclor 1260	4	3.8	95	65-117

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	91%	38-127%
2051-24-3	Decachlorobiphenyl	101%	25-137%

Blank Spike Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29568-BS	LL26834.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66528-1, F66528-2, F66528-3

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C22)	1	0.708	71	60-140
	TPH (> C22-C36)	1	0.925	93	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	81%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29571-MS	XX046219.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635
OP29571-MSD	XX046220.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635
F66528-1	XX046218.D	1	07/13/09	NJ	07/10/09	OP29571	GXX635

The QC reported here applies to the following samples: **Method:** SW846 8082

F66528-1, F66528-2, F66528-3

CAS No.	Compound	F66528-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		7.69	5.8	75*	5.8	75*	0	76-117/16
11096-82-5	Aroclor 1260	ND		7.69	6.8	88	6.6	86	3	65-117/23

CAS No.	Surrogate Recoveries	MS	MSD	F66528-1	Limits
877-09-8	Tetrachloro-m-xylene	71%	70%	62%	38-127%
2051-24-3	Decachlorobiphenyl	104%	102%	102%	25-137%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66528
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29568-MS	LL26840.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017
OP29568-MSD	LL26841.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017
F66528-2	LL26838.D	1	07/16/09	SL	07/10/09	OP29568	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66528-1, F66528-2, F66528-3

CAS No.	Compound	F66528-2 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	0.548		1.92	2.35	94	2.29	91	3	60-140/30
	TPH (> C22-C36)	0.149	J	1.92	2.07	100	2.03	98	2	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	F66528-2	Limits
84-15-1	o-Terphenyl	92%	91%	84%	42-114%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16657
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			07/10/09					07/10/09	
Metal	F66528-1 Original	DUP	RPD	QC Limits	F66528-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	0.00	0.00 (a)	NC	0-20	0.00	28800(a)	27000	106.7	80-120
Antimony	0.0	0.0 (a)	NC	0-20	0.0	559 (a)	500	111.8	80-120
Arsenic	0.00	0.00 (a)	NC	0-20	0.00	2240 (a)	2000	112.0	80-120
Barium	0.00	0.00 (a)	NC	0-20	0.00	2290 (a)	2000	114.5	80-120
Beryllium	0.0	0.0 (a)	NC	0-20	0.0	55.9 (a)	50	111.8	80-120
Cadmium	0.0	0.0 (a)	NC	0-20	0.0	55.3 (a)	50	110.6	80-120
Calcium	572000	621000(a	8.2	0-20	572000	641000(a	25000	276.0(b)	80-120
Chromium	0.0	0.0 (a)	NC	0-20	0.0	220 (a)	200	110.0	80-120
Cobalt	0.0	0.0 (a)	NC	0-20	0.0	554 (a)	500	110.8	80-120
Copper	0.0	0.0 (a)	NC	0-20	0.0	286 (a)	250	114.4	80-120
Iron	0.0	0.0 (a)	NC	0-20	0.0	26700(a)	26000	102.7	80-120
Lead	0.0	0.0 (a)	NC	0-20	0.0	559 (a)	500	111.8	80-120
Magnesium	135000	146000(a	7.8	0-20	135000	171000(a	25000	144.0(b)	80-120
Manganese	569	615 (a)	7.8	0-20	569	1180 (a)	500	122.2N(c	80-120
Molybdenum									
Nickel	0.0	0.0 (a)	NC	0-20	0.0	568 (a)	500	113.6	80-120
Potassium	10500	11200(a)	6.5	0-20	10500	43900(a)	25000	133.6N(c	80-120
Selenium	0.00	0.0 (a)	NC	0-20	0.00	2260 (a)	2000	113.0	80-120
Silver	0.0	0.0 (a)	NC	0-20	0.0	50.6 (a)	50	101.2	80-120
Sodium	114000	122000(a	6.8	0-20	114000	150000(a	25000	144.0(b)	80-120
Thallium	0.0	0.0 (a)	NC	0-20	0.0	2240 (a)	2000	112.0	80-120
Tin									
Vanadium	0.0	0.0 (a)	NC	0-20	0.0	545 (a)	500	109.0	80-120
Zinc	0.0	0.0 (a)	NC	0-20	0.0	559 (a)	500	111.8	80-120

Associated samples MP16657: F66528-1, F66528-2, F66528-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(c) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16657
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/10/09

Metal	F66528-1 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum	0.00	28500(a)	27000	105.6	1.0	20
Antimony	0.0	559 (a)	500	111.8	0.0	20
Arsenic	0.00	2190 (a)	2000	109.5	2.3	20
Barium	0.00	2240 (a)	2000	112.0	2.2	20
Beryllium	0.0	56.3 (a)	50	112.6	0.7	20
Cadmium	0.0	55.9 (a)	50	111.8	1.1	20
Calcium	572000	650000(a	25000	312.0(b)	1.4	20
Chromium	0.0	221 (a)	200	110.5	0.5	20
Cobalt	0.0	555 (a)	500	111.0	0.2	20
Copper	0.0	279 (a)	250	111.6	2.5	20
Iron	0.0	27000(a)	26000	103.8	1.1	20
Lead	0.0	563 (a)	500	112.6	0.7	20
Magnesium	135000	173000(a	25000	152.0(b)	1.2	20
Manganese	569	1190 (a)	500	124.2N(c	0.8	20
Molybdenum						
Nickel	0.0	568 (a)	500	113.6	0.0	20
Potassium	10500	43100(a)	25000	130.4N(c	1.8	20
Selenium	0.00	2260 (a)	2000	113.0	0.0	20
Silver	0.0	50.3 (a)	50	100.6	0.6	20
Sodium	114000	149000(a	25000	140.0(b)	0.7	20
Thallium	0.0	2230 (a)	2000	111.5	0.4	20
Tin						
Vanadium	0.0	542 (a)	500	108.4	0.6	20
Zinc	0.0	570 (a)	500	114.0	1.9	20

Associated samples MP16657: F66528-1, F66528-2, F66528-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(c) Spike recovery indicates possible matrix interference.

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16657
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/10/09

Metal	F66528-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum	0.00	0.00	NC	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	0.00	0.00	NC	0-10
Beryllium	0.00	0.00	NC	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	572000	626000	9.4	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.00	0.00	NC	0-10
Iron	0.00	0.00	NC	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	135000	142000	5.5	0-10
Manganese	569	613	7.8	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Potassium	10500	13900	32.5 (a)	0-10
Selenium	0.00	79.5		0-10
Silver	0.00	0.00	NC	0-10
Sodium	114000	107000	6.3	0-10
Thallium	0.00	0.00	NC	0-10
Tin				
Vanadium	0.00	0.00	NC	0-10
Zinc	0.00	0.00	NC	0-10

Associated samples MP16657: F66528-1, F66528-2, F66528-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16672
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/14/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	1.0	.14	.15	-0.049	<1.0

Associated samples MP16672: F66528-1, F66528-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16672
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/14/09 07/14/09

Metal	F66523-5 Original	DUP	RPD	QC Limits	F66523-5 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	2.9	3	96.7	80-120

Associated samples MP16672: F66528-1, F66528-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.2.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16672 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 07/14/09

Metal	F66523-5 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	3.4	20

Associated samples MP16672: F66528-1, F66528-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16672
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/14/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.0	3	100.0	80-120

Associated samples MP16672: F66528-1, F66528-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16672
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/14/09

Metal	F66523-5 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16672: F66528-1, F66528-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.4

8

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	1.0	.14	.15	0.032	<1.0

Associated samples MP16684: F66528-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.1

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09 07/16/09

Metal	F66576-1 Original	DUP	RPD	QC Limits	F66576-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	3.0	3	100.0	80-120

Associated samples MP16684: F66528-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	F66576-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP16684: F66528-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.3.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.0	3	100.0	80-120

Associated samples MP16684: F66528-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	F66576-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16684: F66528-3

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.4

8

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: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN35824	100	0.0	mg/l				

Associated Samples:
Batch GN35824: F66528-1, F66528-2, F66528-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F66528
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN35824	F66576-1	mg/l	5600	3900	35.8(a)	0-5%

Associated Samples:
Batch GN35824: F66528-1, F66528-2, F66528-3
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

08/06/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66564

Sampling Date: 07/09/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **183**

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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

Client Service contact: Jean Dent-Smith 407-425-6700

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

Nation View

Job No: F66564

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66564-1	07/09/09	08:15	CM	07/10/09	SO	Soil	SWMU122-DP01-10.5
F66564-2	07/09/09	08:25	CM	07/10/09	SO	Soil	SWMU122-DP01-5
F66564-3	07/09/09	08:50	CM	07/10/09	SO	Soil	SWMU122-DP02-5
F66564-4	07/09/09	09:00	CM	07/10/09	SO	Soil	SWMU122-DP02-10
F66564-4D	07/09/09	09:00	CM	07/10/09	SO	Soil Dup/MSD	SWMU122-DP02-10
F66564-4S	07/09/09	09:00	CM	07/10/09	SO	Soil Matrix Spike	SWMU122-DP02-10
F66564-5	07/09/09	09:25	CM	07/10/09	SO	Soil	SWMU122-DP03-5
F66564-6	07/09/09	09:35	CM	07/10/09	SO	Soil	SWMU122-DP03-10
F66564-7	07/09/09	10:05	CM	07/10/09	SO	Soil	SWMU122-DP04-5
F66564-8	07/09/09	10:15	CM	07/10/09	SO	Soil	SWMU122-DP04-10
F66564-9	07/09/09	10:15	CM	07/10/09	SO	Soil	SWMU122-DP04-10-A
F66564-10	07/09/09	00:00	CM	07/10/09	SO	Trip Blank Soil	TRIP BLANK
F66564-11	07/09/09	00:00	CM	07/10/09	SO	Trip Blank Soil	TRIP BLANK

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

Sample Summary
(continued)

Nation View

Job No: F66564

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66564-12	07/09/09	00:00	CM	07/10/09	SO	Trip Blank Soil	TRIP BLANK

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

Sample Results

Report of Analysis

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056360.D	1	07/14/09	MM	07/10/09 11:50	n/a	VH2104
Run #2							

	Initial Weight
Run #1	5.35 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	68	34	ug/kg	
107-02-8	Acrolein	ND	34	13	ug/kg	
107-13-1	Acrylonitrile	ND	34	9.4	ug/kg	
71-43-2	Benzene	ND	6.8	1.4	ug/kg	
108-86-1	Bromobenzene	ND	6.8	1.4	ug/kg	
74-97-5	Bromochloromethane	ND	6.8	2.3	ug/kg	
75-27-4	Bromodichloromethane	ND	6.8	1.6	ug/kg	
75-25-2	Bromoform	ND	6.8	2.0	ug/kg	
104-51-8	n-Butylbenzene	ND	6.8	1.9	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.8	1.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.8	1.5	ug/kg	
108-90-7	Chlorobenzene	ND	6.8	1.4	ug/kg	
75-00-3	Chloroethane	ND	6.8	2.7	ug/kg	
67-66-3	Chloroform	ND	6.8	2.3	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.8	1.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.8	1.4	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	34	14	ug/kg	
75-15-0	Carbon disulfide	ND	6.8	1.5	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.8	1.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.8	2.7	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.8	1.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.8	1.9	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.8	3.3	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.8	1.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.8	1.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.8	1.9	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.8	1.4	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.8	2.9	ug/kg	
124-48-1	Dibromochloromethane	ND	6.8	1.4	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.8	2.7	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.8	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.8	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	6.8	1.4	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.8	1.4	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.8	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.8	1.6	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.8	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	6.8	1.4	ug/kg	
591-78-6	2-Hexanone	ND	34	6.8	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.8	1.6	ug/kg	
110-54-3	Hexane	ND	6.8	3.3	ug/kg	
98-82-8	Isopropylbenzene	ND	6.8	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.8	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	34	8.7	ug/kg	
74-83-9	Methyl bromide	ND	6.8	3.0	ug/kg	
74-87-3	Methyl chloride	ND	6.8	3.3	ug/kg	
74-95-3	Methylene bromide	ND	6.8	2.0	ug/kg	
75-09-2	Methylene chloride [a]	8.8	14	6.8	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	34	11	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.8	2.0	ug/kg	
91-20-3	Naphthalene	ND	6.8	2.7	ug/kg	
103-65-1	n-Propylbenzene	ND	6.8	1.6	ug/kg	
100-42-5	Styrene	ND	6.8	1.4	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.8	1.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.8	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.8	2.4	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.8	1.4	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.8	2.7	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.8	2.6	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.8	2.7	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	6.8	1.4	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.8	1.4	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.8	1.6	ug/kg	
108-88-3	Toluene	ND	6.8	1.4	ug/kg	
79-01-6	Trichloroethylene	ND	6.8	1.6	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.8	2.7	ug/kg	
75-01-4	Vinyl chloride	ND	6.8	2.7	ug/kg	
108-05-4	Vinyl Acetate	ND	34	16	ug/kg	
	m,p-Xylene	ND	14	2.6	ug/kg	
95-47-6	o-Xylene	ND	6.8	1.4	ug/kg	

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N = Indicates presumptive evidence of a compound

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		80-121%
2037-26-5	Toluene-D8	90%		71-130%
460-00-4	4-Bromofluorobenzene	105%		59-148%
17060-07-0	1,2-Dichloroethane-D4	109%		77-123%

(a) Suspected laboratory contaminant.

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N = Indicates presumptive evidence of a compound

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013427.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	29.6 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1200	490	ug/kg	
95-57-8	2-Chlorophenol	ND	250	49	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	250	49	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	250	49	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	250	49	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	490	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	490	160	ug/kg	
95-48-7	2-Methylphenol	ND	250	49	ug/kg	
	3&4-Methylphenol	ND	250	49	ug/kg	
88-75-5	2-Nitrophenol	ND	250	49	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	490	ug/kg	
87-86-5	Pentachlorophenol	ND	1200	490	ug/kg	
108-95-2	Phenol	ND	250	49	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	250	49	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	250	49	ug/kg	
83-32-9	Acenaphthene	ND	250	49	ug/kg	
208-96-8	Acenaphthylene	ND	250	49	ug/kg	
120-12-7	Anthracene	ND	250	49	ug/kg	
92-87-5	Benzidine	ND	2500	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	250	49	ug/kg	
50-32-8	Benzo(a)pyrene	ND	250	49	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	250	49	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	250	49	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	250	49	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	250	49	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	490	98	ug/kg	
100-51-6	Benzyl Alcohol	ND	250	49	ug/kg	
91-58-7	2-Chloronaphthalene	ND	250	49	ug/kg	
106-47-8	4-Chloroaniline	ND	250	98	ug/kg	
218-01-9	Chrysene	ND	250	49	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	250	49	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	250	49	ug/kg	

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J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	250	49	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	250	49	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	250	64	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	250	64	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	250	59	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	250	49	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	250	49	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	490	98	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	250	49	ug/kg	
132-64-9	Dibenzofuran	ND	250	49	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	490	98	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	490	98	ug/kg	
84-66-2	Diethyl phthalate	ND	490	250	ug/kg	
131-11-3	Dimethyl phthalate	ND	490	98	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	490	250	ug/kg	
206-44-0	Fluoranthene	ND	250	49	ug/kg	
86-73-7	Fluorene	ND	250	49	ug/kg	
118-74-1	Hexachlorobenzene	ND	250	49	ug/kg	
87-68-3	Hexachlorobutadiene	ND	250	49	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	250	49	ug/kg	
67-72-1	Hexachloroethane	ND	250	59	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	250	49	ug/kg	
78-59-1	Isophorone	ND	250	49	ug/kg	
91-57-6	2-Methylnaphthalene	ND	250	49	ug/kg	
88-74-4	2-Nitroaniline	ND	490	98	ug/kg	
99-09-2	3-Nitroaniline	ND	490	98	ug/kg	
100-01-6	4-Nitroaniline	ND	490	98	ug/kg	
91-20-3	Naphthalene	ND	250	49	ug/kg	
98-95-3	Nitrobenzene	ND	250	49	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	250	49	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	250	98	ug/kg	
85-01-8	Phenanthrene	ND	250	49	ug/kg	
129-00-0	Pyrene	ND	250	49	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	250	49	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	71%		40-102%
4165-62-2	Phenol-d5	75%		41-100%
118-79-6	2,4,6-Tribromophenol	73%		42-108%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	67%		40-105%
321-60-8	2-Fluorobiphenyl	69%		43-107%
1718-51-0	Terphenyl-d14	72%		45-119%

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Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048754.D	1	07/16/09	AH	07/10/09 11:50	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.31 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	56%		56-136%
98-08-8	aaa-Trifluorotoluene	77%		61-121%

ND = Not detected MDL - Method Detection Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046549.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	24	12	ug/kg	
11104-28-2	Aroclor 1221	ND	24	19	ug/kg	
11141-16-5	Aroclor 1232	ND	24	19	ug/kg	
53469-21-9	Aroclor 1242	ND	24	12	ug/kg	
12672-29-6	Aroclor 1248	ND	24	12	ug/kg	
11097-69-1	Aroclor 1254	ND	24	12	ug/kg	
11096-82-5	Aroclor 1260	ND	24	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	96%		44-126%
2051-24-3	Decachlorobiphenyl	102%		39-157%

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N = Indicates presumptive evidence of a compound

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	68.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26806.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	12	7.2	mg/kg	
	TPH (> C22-C36)	ND	12	7.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	67%		49-108%

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Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP01-10.5		
Lab Sample ID:	F66564-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	68.7
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	2770	14	1.4	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Antimony [a]	3.4 U	42	3.4	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Arsenic [a]	2.5 U	5.6	2.5	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Barium	24.3	14	0.70	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Beryllium	0.14 U	0.35	0.14	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Cadmium	0.070 U	0.28	0.070	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Calcium	224000	3500	70	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Chromium	2.5	0.70	0.11	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Cobalt	0.58 J	3.5	0.058	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Copper	1.8	1.7	0.15	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Iron	1890	7.0	1.8	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Lead [a]	3.1 U	70	3.1	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Magnesium	1790	350	7.0	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Manganese	27.0	1.0	0.035	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Mercury	0.016 U	0.11	0.016	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [3]	SW846 7471A [5]
Nickel	1.6 J	2.8	0.22	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Potassium	1350	700	7.0	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Selenium [a]	4.5 J	70	2.2	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Silver	0.084 U	0.70	0.084	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Sodium	186 J	700	58	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Thallium	0.24 U	0.70	0.24	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Vanadium	5.2	3.5	0.046	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Zinc	5.2	1.4	0.27	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA7361
(2) Instrument QC Batch: MA7367
(3) Instrument QC Batch: MA7369
(4) Prep QC Batch: MP16679
(5) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056361.D	1	07/14/09	MM	07/10/09 11:50	n/a	VH2104
Run #2							

	Initial Weight
Run #1	5.09 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	58	29	ug/kg	
107-02-8	Acrolein	ND	29	11	ug/kg	
107-13-1	Acrylonitrile	ND	29	8.0	ug/kg	
71-43-2	Benzene	ND	5.8	1.2	ug/kg	
108-86-1	Bromobenzene	ND	5.8	1.2	ug/kg	
74-97-5	Bromochloromethane	ND	5.8	2.0	ug/kg	
75-27-4	Bromodichloromethane	ND	5.8	1.4	ug/kg	
75-25-2	Bromoform	ND	5.8	1.7	ug/kg	
104-51-8	n-Butylbenzene	ND	5.8	1.6	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.8	1.3	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.8	1.3	ug/kg	
108-90-7	Chlorobenzene	ND	5.8	1.2	ug/kg	
75-00-3	Chloroethane	ND	5.8	2.3	ug/kg	
67-66-3	Chloroform	ND	5.8	2.0	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.8	1.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.8	1.2	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	29	12	ug/kg	
75-15-0	Carbon disulfide	ND	5.8	1.3	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.8	1.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.8	2.3	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.8	1.5	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.8	1.6	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.8	2.8	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.8	1.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.8	1.3	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.8	1.6	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.8	1.2	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.8	2.4	ug/kg	
124-48-1	Dibromochloromethane	ND	5.8	1.2	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.8	2.3	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.8	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.8	1.5	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:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	5.8	1.2	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.8	1.2	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.8	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.8	1.4	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.8	1.2	ug/kg	
100-41-4	Ethylbenzene	ND	5.8	1.2	ug/kg	
591-78-6	2-Hexanone	ND	29	5.8	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.8	1.4	ug/kg	
110-54-3	Hexane	ND	5.8	2.8	ug/kg	
98-82-8	Isopropylbenzene	ND	5.8	1.3	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.8	1.3	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	29	7.5	ug/kg	
74-83-9	Methyl bromide	ND	5.8	2.6	ug/kg	
74-87-3	Methyl chloride	ND	5.8	2.8	ug/kg	
74-95-3	Methylene bromide	ND	5.8	1.7	ug/kg	
75-09-2	Methylene chloride [a]	6.0	12	5.8	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	29	9.7	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.8	1.7	ug/kg	
91-20-3	Naphthalene	ND	5.8	2.3	ug/kg	
103-65-1	n-Propylbenzene	ND	5.8	1.4	ug/kg	
100-42-5	Styrene	ND	5.8	1.2	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.8	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.8	1.3	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.8	2.1	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.8	1.2	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.8	2.3	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.8	2.2	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.8	2.3	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.8	1.2	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.8	1.2	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.8	1.4	ug/kg	
108-88-3	Toluene	ND	5.8	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	5.8	1.4	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.8	2.3	ug/kg	
75-01-4	Vinyl chloride	ND	5.8	2.3	ug/kg	
108-05-4	Vinyl Acetate	ND	29	14	ug/kg	
	m,p-Xylene	ND	12	2.2	ug/kg	
95-47-6	o-Xylene	ND	5.8	1.2	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:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		80-121%
2037-26-5	Toluene-D8	105%		71-130%
460-00-4	4-Bromofluorobenzene	106%		59-148%
17060-07-0	1,2-Dichloroethane-D4	108%		77-123%

(a) 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

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Report of Analysis

Client Sample ID:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013428.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	970	390	ug/kg	
95-57-8	2-Chlorophenol	ND	190	39	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	190	39	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	190	39	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	39	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	970	390	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	390	120	ug/kg	
95-48-7	2-Methylphenol	ND	190	39	ug/kg	
	3&4-Methylphenol	ND	190	39	ug/kg	
88-75-5	2-Nitrophenol	ND	190	39	ug/kg	
100-02-7	4-Nitrophenol	ND	970	390	ug/kg	
87-86-5	Pentachlorophenol	ND	970	390	ug/kg	
108-95-2	Phenol	ND	190	39	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	190	39	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	190	39	ug/kg	
83-32-9	Acenaphthene	ND	190	39	ug/kg	
208-96-8	Acenaphthylene	ND	190	39	ug/kg	
120-12-7	Anthracene	ND	190	39	ug/kg	
92-87-5	Benzidine	ND	1900	970	ug/kg	
56-55-3	Benzo(a)anthracene	ND	190	39	ug/kg	
50-32-8	Benzo(a)pyrene	ND	190	39	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	190	39	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	190	39	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	190	39	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	190	39	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	390	78	ug/kg	
100-51-6	Benzyl Alcohol	ND	190	39	ug/kg	
91-58-7	2-Chloronaphthalene	ND	190	39	ug/kg	
106-47-8	4-Chloroaniline	ND	190	78	ug/kg	
218-01-9	Chrysene	ND	190	39	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	190	39	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	190	39	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

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Report of Analysis

Client Sample ID:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	190	39	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	190	39	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	190	51	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	190	51	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	47	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	190	39	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	190	39	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	390	78	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	190	39	ug/kg	
132-64-9	Dibenzofuran	ND	190	39	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	390	78	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	390	78	ug/kg	
84-66-2	Diethyl phthalate	ND	390	190	ug/kg	
131-11-3	Dimethyl phthalate	ND	390	78	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	390	190	ug/kg	
206-44-0	Fluoranthene	ND	190	39	ug/kg	
86-73-7	Fluorene	ND	190	39	ug/kg	
118-74-1	Hexachlorobenzene	ND	190	39	ug/kg	
87-68-3	Hexachlorobutadiene	ND	190	39	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	190	39	ug/kg	
67-72-1	Hexachloroethane	ND	190	47	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	190	39	ug/kg	
78-59-1	Isophorone	ND	190	39	ug/kg	
91-57-6	2-Methylnaphthalene	ND	190	39	ug/kg	
88-74-4	2-Nitroaniline	ND	390	78	ug/kg	
99-09-2	3-Nitroaniline	ND	390	78	ug/kg	
100-01-6	4-Nitroaniline	ND	390	78	ug/kg	
91-20-3	Naphthalene	ND	190	39	ug/kg	
98-95-3	Nitrobenzene	ND	190	39	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	190	39	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	78	ug/kg	
85-01-8	Phenanthrene	ND	190	39	ug/kg	
129-00-0	Pyrene	ND	190	39	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	190	39	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	64%		40-102%
4165-62-2	Phenol-d5	67%		41-100%
118-79-6	2,4,6-Tribromophenol	66%		42-108%

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:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		40-105%
321-60-8	2-Fluorobiphenyl	61%		43-107%
1718-51-0	Terphenyl-d14	63%		45-119%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048755.D	1	07/16/09	AH	07/10/09 11:50	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.28 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.5	3.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	68%		56-136%
98-08-8	aaa-Trifluorotoluene	76%		61-121%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046550.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	29.9 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	9.9	ug/kg	
11104-28-2	Aroclor 1221	ND	20	16	ug/kg	
11141-16-5	Aroclor 1232	ND	20	16	ug/kg	
53469-21-9	Aroclor 1242	ND	20	9.9	ug/kg	
12672-29-6	Aroclor 1248	ND	20	9.9	ug/kg	
11097-69-1	Aroclor 1254	ND	20	9.9	ug/kg	
11096-82-5	Aroclor 1260	ND	20	9.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	96%		44-126%
2051-24-3	Decachlorobiphenyl	99%		39-157%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	84.3
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26807.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	9.8	5.9	mg/kg	
	TPH (> C22-C36)	ND	9.8	5.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		49-108%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP01-5		
Lab Sample ID:	F66564-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	84.3
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	5670	12	1.2	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Antimony [a]	1.1 U	14	1.1	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Arsenic [a]	2.0	1.9	0.85	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Barium	52.3	12	0.59	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Beryllium	0.25 J	0.29	0.12	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Cadmium	0.059 U	0.23	0.059	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Calcium	82800	1200	23	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Chromium	5.3	0.59	0.094	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Cobalt	1.9 J	2.9	0.049	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Copper	4.1	1.5	0.12	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Iron	4210	5.9	1.5	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Lead [a]	2.7 J	23	1.1	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Magnesium	5250	290	5.9	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Manganese	66.6	0.88	0.029	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Mercury	0.013 U	0.093	0.013	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [3]	SW846 7471A [5]
Nickel	3.7	2.3	0.19	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Potassium	2240	590	5.9	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Selenium [a]	1.9 J	23	0.73	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Silver	0.070 U	0.59	0.070	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Sodium	1160	590	49	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Thallium [a]	2.0 U	2.4	2.0	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Vanadium	11.7	2.9	0.039	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Zinc	12.9	1.2	0.22	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA7361
(2) Instrument QC Batch: MA7367
(3) Instrument QC Batch: MA7369
(4) Prep QC Batch: MP16679
(5) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056362.D	1	07/14/09	MM	07/10/09 11:50	n/a	VH2104
Run #2							

	Initial Weight
Run #1	4.78 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	79	39	ug/kg	
107-02-8	Acrolein	ND	39	15	ug/kg	
107-13-1	Acrylonitrile	ND	39	11	ug/kg	
71-43-2	Benzene	ND	7.9	1.6	ug/kg	
108-86-1	Bromobenzene	ND	7.9	1.6	ug/kg	
74-97-5	Bromochloromethane	ND	7.9	2.7	ug/kg	
75-27-4	Bromodichloromethane	ND	7.9	1.9	ug/kg	
75-25-2	Bromoform	ND	7.9	2.4	ug/kg	
104-51-8	n-Butylbenzene	ND	7.9	2.2	ug/kg	
135-98-8	sec-Butylbenzene	ND	7.9	1.7	ug/kg	
98-06-6	tert-Butylbenzene	ND	7.9	1.7	ug/kg	
108-90-7	Chlorobenzene	ND	7.9	1.6	ug/kg	
75-00-3	Chloroethane	ND	7.9	3.1	ug/kg	
67-66-3	Chloroform	ND	7.9	2.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	7.9	1.6	ug/kg	
106-43-4	p-Chlorotoluene	ND	7.9	1.6	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	39	16	ug/kg	
75-15-0	Carbon disulfide	ND	7.9	1.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	7.9	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	7.9	3.1	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	7.9	2.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	7.9	2.2	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	7.9	3.8	ug/kg	
106-93-4	1,2-Dibromoethane	ND	7.9	1.6	ug/kg	
107-06-2	1,2-Dichloroethane	ND	7.9	1.7	ug/kg	
78-87-5	1,2-Dichloropropane	ND	7.9	2.2	ug/kg	
142-28-9	1,3-Dichloropropane	ND	7.9	1.6	ug/kg	
594-20-7	2,2-Dichloropropane	ND	7.9	3.3	ug/kg	
124-48-1	Dibromochloromethane	ND	7.9	1.6	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.9	3.1	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	7.9	2.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	7.9	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	7.9	1.6	ug/kg	
95-50-1	o-Dichlorobenzene	ND	7.9	1.6	ug/kg	
106-46-7	p-Dichlorobenzene	ND	7.9	1.6	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	7.9	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	7.9	1.6	ug/kg	
100-41-4	Ethylbenzene	ND	7.9	1.6	ug/kg	
591-78-6	2-Hexanone	ND	39	7.9	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.9	1.9	ug/kg	
110-54-3	Hexane	ND	7.9	3.8	ug/kg	
98-82-8	Isopropylbenzene	ND	7.9	1.7	ug/kg	
99-87-6	p-Isopropyltoluene	ND	7.9	1.7	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	39	10	ug/kg	
74-83-9	Methyl bromide	ND	7.9	3.5	ug/kg	
74-87-3	Methyl chloride	ND	7.9	3.8	ug/kg	
74-95-3	Methylene bromide	ND	7.9	2.4	ug/kg	
75-09-2	Methylene chloride [a]	12.2	16	7.9	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	39	13	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.9	2.4	ug/kg	
91-20-3	Naphthalene	ND	7.9	3.1	ug/kg	
103-65-1	n-Propylbenzene	ND	7.9	1.9	ug/kg	
100-42-5	Styrene	ND	7.9	1.6	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	7.9	1.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	7.9	1.7	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.9	2.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	7.9	1.6	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.9	3.1	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.9	3.0	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.9	3.1	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	7.9	1.6	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	7.9	1.6	ug/kg	
127-18-4	Tetrachloroethylene	ND	7.9	1.9	ug/kg	
108-88-3	Toluene	ND	7.9	1.6	ug/kg	
79-01-6	Trichloroethylene	ND	7.9	1.9	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.9	3.1	ug/kg	
75-01-4	Vinyl chloride	ND	7.9	3.1	ug/kg	
108-05-4	Vinyl Acetate	ND	39	19	ug/kg	
	m,p-Xylene	ND	16	3.0	ug/kg	
95-47-6	o-Xylene	ND	7.9	1.6	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:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		80-121%
2037-26-5	Toluene-D8	92%		71-130%
460-00-4	4-Bromofluorobenzene	110%		59-148%
17060-07-0	1,2-Dichloroethane-D4	101%		77-123%

(a) 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

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Report of Analysis

Client Sample ID:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013429.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1300	500	ug/kg	
95-57-8	2-Chlorophenol	ND	250	50	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	250	50	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	250	50	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	250	50	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1300	500	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	500	160	ug/kg	
95-48-7	2-Methylphenol	ND	250	50	ug/kg	
	3&4-Methylphenol	ND	250	50	ug/kg	
88-75-5	2-Nitrophenol	ND	250	50	ug/kg	
100-02-7	4-Nitrophenol	ND	1300	500	ug/kg	
87-86-5	Pentachlorophenol	ND	1300	500	ug/kg	
108-95-2	Phenol	ND	250	50	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	250	50	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	250	50	ug/kg	
83-32-9	Acenaphthene	ND	250	50	ug/kg	
208-96-8	Acenaphthylene	ND	250	50	ug/kg	
120-12-7	Anthracene	ND	250	50	ug/kg	
92-87-5	Benzidine	ND	2500	1300	ug/kg	
56-55-3	Benzo(a)anthracene	ND	250	50	ug/kg	
50-32-8	Benzo(a)pyrene	ND	250	50	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	250	50	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	250	50	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	250	50	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	250	50	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	500	100	ug/kg	
100-51-6	Benzyl Alcohol	ND	250	50	ug/kg	
91-58-7	2-Chloronaphthalene	ND	250	50	ug/kg	
106-47-8	4-Chloroaniline	ND	250	100	ug/kg	
218-01-9	Chrysene	ND	250	50	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	250	50	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	250	50	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

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Report of Analysis

Client Sample ID:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	250	50	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	250	50	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	250	65	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	250	65	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	250	60	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	250	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	250	50	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	500	100	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	250	50	ug/kg	
132-64-9	Dibenzofuran	ND	250	50	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	500	100	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	500	100	ug/kg	
84-66-2	Diethyl phthalate	ND	500	250	ug/kg	
131-11-3	Dimethyl phthalate	ND	500	100	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	500	250	ug/kg	
206-44-0	Fluoranthene	ND	250	50	ug/kg	
86-73-7	Fluorene	ND	250	50	ug/kg	
118-74-1	Hexachlorobenzene	ND	250	50	ug/kg	
87-68-3	Hexachlorobutadiene	ND	250	50	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	250	50	ug/kg	
67-72-1	Hexachloroethane	ND	250	60	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	250	50	ug/kg	
78-59-1	Isophorone	ND	250	50	ug/kg	
91-57-6	2-Methylnaphthalene	ND	250	50	ug/kg	
88-74-4	2-Nitroaniline	ND	500	100	ug/kg	
99-09-2	3-Nitroaniline	ND	500	100	ug/kg	
100-01-6	4-Nitroaniline	ND	500	100	ug/kg	
91-20-3	Naphthalene	ND	250	50	ug/kg	
98-95-3	Nitrobenzene	ND	250	50	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	250	50	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	250	100	ug/kg	
85-01-8	Phenanthrene	ND	250	50	ug/kg	
129-00-0	Pyrene	ND	250	50	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	250	50	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	69%		40-102%
4165-62-2	Phenol-d5	74%		41-100%
118-79-6	2,4,6-Tribromophenol	74%		42-108%

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:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		40-105%
321-60-8	2-Fluorobiphenyl	64%		43-107%
1718-51-0	Terphenyl-d14	68%		45-119%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048756.D	1	07/16/09	AH	07/10/09 11:50	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.36 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	68%		56-136%
98-08-8	aaa-Trifluorotoluene	75%		61-121%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046551.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	29.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	25	13	ug/kg	
11104-28-2	Aroclor 1221	ND	25	20	ug/kg	
11141-16-5	Aroclor 1232	ND	25	20	ug/kg	
53469-21-9	Aroclor 1242	ND	25	13	ug/kg	
12672-29-6	Aroclor 1248	ND	25	13	ug/kg	
11097-69-1	Aroclor 1254	ND	25	13	ug/kg	
11096-82-5	Aroclor 1260	ND	25	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	96%		44-126%
2051-24-3	Decachlorobiphenyl	83%		39-157%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	66.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26847.D	1	07/16/09	SL	07/14/09	OP29604	GLL1018
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	13	7.5	mg/kg	
	TPH (> C22-C36)	ND	13	7.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	70%		49-108%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP02-5		
Lab Sample ID:	F66564-3	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	66.6
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	2370	60	6.0	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Antimony [a]	3.6 U	45	3.6	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Arsenic [a]	2.7 U	6.0	2.7	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Barium [a]	35.8 J	60	3.0	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Beryllium [a]	0.60 U	1.5	0.60	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cadmium [a]	0.30 U	1.2	0.30	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Calcium	227000	3800	75	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Chromium [a]	2.2 J	3.0	0.48	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cobalt [a]	1.1 J	15	0.25	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Copper [a]	3.6 J	7.5	0.63	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Iron [a]	1760	30	7.8	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Lead [a]	3.4 U	75	3.4	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Magnesium [a]	4150	1500	30	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Manganese [a]	38.4	4.5	0.15	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.018 U	0.13	0.018	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [2]	SW846 7471A [4]
Nickel [a]	2.0 J	12	0.96	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Potassium [a]	1140 J	3000	30	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Selenium [a]	4.8 J	75	2.3	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Silver [a]	0.36 U	3.0	0.36	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Sodium [a]	862 J	3000	250	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Thallium [a]	1.0 U	3.0	1.0	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Vanadium [a]	6.3 J	15	0.20	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Zinc [a]	6.4	6.0	1.1	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA7367
(2) Instrument QC Batch: MA7369
(3) Prep QC Batch: MP16679
(4) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056357.D	1	07/14/09	MM	07/10/09 11:50	n/a	VH2104
Run #2							

	Initial Weight
Run #1	5.39 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	75	38	ug/kg	
107-02-8	Acrolein	ND	38	15	ug/kg	
107-13-1	Acrylonitrile	ND	38	10	ug/kg	
71-43-2	Benzene	ND	7.5	1.5	ug/kg	
108-86-1	Bromobenzene	ND	7.5	1.5	ug/kg	
74-97-5	Bromochloromethane	ND	7.5	2.6	ug/kg	
75-27-4	Bromodichloromethane	ND	7.5	1.8	ug/kg	
75-25-2	Bromoform	ND	7.5	2.3	ug/kg	
104-51-8	n-Butylbenzene	ND	7.5	2.1	ug/kg	
135-98-8	sec-Butylbenzene	ND	7.5	1.7	ug/kg	
98-06-6	tert-Butylbenzene	ND	7.5	1.7	ug/kg	
108-90-7	Chlorobenzene	ND	7.5	1.5	ug/kg	
75-00-3	Chloroethane	ND	7.5	3.0	ug/kg	
67-66-3	Chloroform	ND	7.5	2.6	ug/kg	
95-49-8	o-Chlorotoluene	ND	7.5	1.5	ug/kg	
106-43-4	p-Chlorotoluene	ND	7.5	1.5	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	38	15	ug/kg	
75-15-0	Carbon disulfide	ND	7.5	1.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	7.5	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	7.5	3.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	7.5	2.0	ug/kg	
563-58-6	1,1-Dichloropropene	ND	7.5	2.1	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	7.5	3.6	ug/kg	
106-93-4	1,2-Dibromoethane	ND	7.5	1.5	ug/kg	
107-06-2	1,2-Dichloroethane	ND	7.5	1.7	ug/kg	
78-87-5	1,2-Dichloropropane	ND	7.5	2.1	ug/kg	
142-28-9	1,3-Dichloropropane	ND	7.5	1.5	ug/kg	
594-20-7	2,2-Dichloropropane	ND	7.5	3.2	ug/kg	
124-48-1	Dibromochloromethane	ND	7.5	1.5	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.5	3.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	7.5	2.4	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	7.5	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	7.5	1.5	ug/kg	
95-50-1	o-Dichlorobenzene	ND	7.5	1.5	ug/kg	
106-46-7	p-Dichlorobenzene	ND	7.5	1.5	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	7.5	1.8	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	7.5	1.5	ug/kg	
100-41-4	Ethylbenzene	ND	7.5	1.5	ug/kg	
591-78-6	2-Hexanone	ND	38	7.5	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.5	1.8	ug/kg	
110-54-3	Hexane	ND	7.5	3.6	ug/kg	
98-82-8	Isopropylbenzene	ND	7.5	1.7	ug/kg	
99-87-6	p-Isopropyltoluene	ND	7.5	1.7	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	38	9.6	ug/kg	
74-83-9	Methyl bromide	ND	7.5	3.3	ug/kg	
74-87-3	Methyl chloride	ND	7.5	3.6	ug/kg	
74-95-3	Methylene bromide	ND	7.5	2.3	ug/kg	
75-09-2	Methylene chloride	ND	15	7.5	ug/kg	
78-93-3	Methyl ethyl ketone	ND	38	12	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.5	2.3	ug/kg	
91-20-3	Naphthalene	ND	7.5	3.0	ug/kg	
103-65-1	n-Propylbenzene	ND	7.5	1.8	ug/kg	
100-42-5	Styrene	ND	7.5	1.5	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	7.5	1.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	7.5	1.7	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.5	2.7	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	7.5	1.5	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.5	3.0	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.5	2.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.5	3.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	7.5	1.5	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	7.5	1.5	ug/kg	
127-18-4	Tetrachloroethylene	ND	7.5	1.8	ug/kg	
108-88-3	Toluene	ND	7.5	1.5	ug/kg	
79-01-6	Trichloroethylene	ND	7.5	1.8	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.5	3.0	ug/kg	
75-01-4	Vinyl chloride	ND	7.5	3.0	ug/kg	
108-05-4	Vinyl Acetate	ND	38	18	ug/kg	
	m,p-Xylene	ND	15	2.9	ug/kg	
95-47-6	o-Xylene	ND	7.5	1.5	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		80-121%
2037-26-5	Toluene-D8	92%		71-130%
460-00-4	4-Bromofluorobenzene	109%		59-148%
17060-07-0	1,2-Dichloroethane-D4	110%		77-123%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013430.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	29.9 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1400	540	ug/kg	
95-57-8	2-Chlorophenol	ND	270	54	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	270	54	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	270	54	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	270	54	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1400	540	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	540	170	ug/kg	
95-48-7	2-Methylphenol	ND	270	54	ug/kg	
	3&4-Methylphenol	ND	270	54	ug/kg	
88-75-5	2-Nitrophenol	ND	270	54	ug/kg	
100-02-7	4-Nitrophenol	ND	1400	540	ug/kg	
87-86-5	Pentachlorophenol	ND	1400	540	ug/kg	
108-95-2	Phenol	ND	270	54	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	270	54	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	270	54	ug/kg	
83-32-9	Acenaphthene	ND	270	54	ug/kg	
208-96-8	Acenaphthylene	ND	270	54	ug/kg	
120-12-7	Anthracene	ND	270	54	ug/kg	
92-87-5	Benzidine	ND	2700	1400	ug/kg	
56-55-3	Benzo(a)anthracene	ND	270	54	ug/kg	
50-32-8	Benzo(a)pyrene	ND	270	54	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	270	54	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	270	54	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	270	54	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	270	54	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	540	110	ug/kg	
100-51-6	Benzyl Alcohol	ND	270	54	ug/kg	
91-58-7	2-Chloronaphthalene	ND	270	54	ug/kg	
106-47-8	4-Chloroaniline	ND	270	110	ug/kg	
218-01-9	Chrysene	ND	270	54	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	270	54	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	270	54	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	270	54	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	270	54	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	270	71	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	270	71	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	270	65	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	270	54	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	270	54	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	540	110	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	270	54	ug/kg	
132-64-9	Dibenzofuran	ND	270	54	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	540	110	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	540	110	ug/kg	
84-66-2	Diethyl phthalate	ND	540	270	ug/kg	
131-11-3	Dimethyl phthalate	ND	540	110	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	540	270	ug/kg	
206-44-0	Fluoranthene	ND	270	54	ug/kg	
86-73-7	Fluorene	ND	270	54	ug/kg	
118-74-1	Hexachlorobenzene	ND	270	54	ug/kg	
87-68-3	Hexachlorobutadiene	ND	270	54	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	270	54	ug/kg	
67-72-1	Hexachloroethane	ND	270	65	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	270	54	ug/kg	
78-59-1	Isophorone	ND	270	54	ug/kg	
91-57-6	2-Methylnaphthalene	ND	270	54	ug/kg	
88-74-4	2-Nitroaniline	ND	540	110	ug/kg	
99-09-2	3-Nitroaniline	ND	540	110	ug/kg	
100-01-6	4-Nitroaniline	ND	540	110	ug/kg	
91-20-3	Naphthalene	ND	270	54	ug/kg	
98-95-3	Nitrobenzene	ND	270	54	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	270	54	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	270	110	ug/kg	
85-01-8	Phenanthrene	ND	270	54	ug/kg	
129-00-0	Pyrene	ND	270	54	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	270	54	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	60%		40-102%
4165-62-2	Phenol-d5	63%		41-100%
118-79-6	2,4,6-Tribromophenol	65%		42-108%

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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:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	57%		40-105%
321-60-8	2-Fluorobiphenyl	58%		43-107%
1718-51-0	Terphenyl-d14	63%		45-119%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048757.D	1	07/16/09	AH	07/10/09 11:50	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.46 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	11	5.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	70%		56-136%
98-08-8	aaa-Trifluorotoluene	78%		61-121%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046552.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	29.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	27	14	ug/kg	
11104-28-2	Aroclor 1221	ND	27	22	ug/kg	
11141-16-5	Aroclor 1232	ND	27	22	ug/kg	
53469-21-9	Aroclor 1242	ND	27	14	ug/kg	
12672-29-6	Aroclor 1248	ND	27	14	ug/kg	
11097-69-1	Aroclor 1254	ND	27	14	ug/kg	
11096-82-5	Aroclor 1260	ND	27	14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	98%		44-126%
2051-24-3	Decachlorobiphenyl	100%		39-157%

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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	61.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26813.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	14	8.1	mg/kg	
	TPH (> C22-C36)	ND	14	8.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		49-108%

ND = Not detected MDL - Method Detection Limit
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Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP02-10		
Lab Sample ID:	F66564-4	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	61.6
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	13100	15	1.5	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Antimony [a]	1.9 U	23	1.9	mg/kg	5	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Arsenic [a]	6.3	3.1	1.4	mg/kg	5	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Barium	55.9	15	0.77	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Beryllium	0.76	0.39	0.15	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Cadmium	0.19 J	0.31	0.077	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Calcium	178000	1900	39	mg/kg	5	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Chromium	12.4	0.77	0.12	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Cobalt	4.6	3.9	0.064	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Copper	6.3	1.9	0.16	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Iron	9480	7.7	2.0	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Lead [a]	6.4 J	39	1.7	mg/kg	5	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Magnesium	18000	390	7.7	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Manganese	150	1.2	0.039	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Mercury	0.018 U	0.12	0.018	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [3]	SW846 7471A [5]
Nickel	10.3	3.1	0.25	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Potassium	4440	770	7.7	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Selenium [a]	3.4 J	39	1.2	mg/kg	5	07/15/09	07/16/09	RS	SW846 6010B [2]	SW846 3050B [4]
Silver	0.093 U	0.77	0.093	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Sodium	988	770	64	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Thallium [a]	1.3 U	3.1	1.3	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Vanadium	23.2	3.9	0.051	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]
Zinc	27.9	1.5	0.29	mg/kg	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA7361
(2) Instrument QC Batch: MA7367
(3) Instrument QC Batch: MA7369
(4) Prep QC Batch: MP16679
(5) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056363.D	1	07/14/09	MM	07/10/09 11:50	n/a	VH2104
Run #2							

	Initial Weight
Run #1	5.07 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	70	35	ug/kg	
107-02-8	Acrolein	ND	35	14	ug/kg	
107-13-1	Acrylonitrile	ND	35	9.6	ug/kg	
71-43-2	Benzene	ND	7.0	1.4	ug/kg	
108-86-1	Bromobenzene	ND	7.0	1.4	ug/kg	
74-97-5	Bromochloromethane	ND	7.0	2.4	ug/kg	
75-27-4	Bromodichloromethane	ND	7.0	1.7	ug/kg	
75-25-2	Bromoform	ND	7.0	2.1	ug/kg	
104-51-8	n-Butylbenzene	ND	7.0	2.0	ug/kg	
135-98-8	sec-Butylbenzene	ND	7.0	1.5	ug/kg	
98-06-6	tert-Butylbenzene	ND	7.0	1.5	ug/kg	
108-90-7	Chlorobenzene	ND	7.0	1.4	ug/kg	
75-00-3	Chloroethane	ND	7.0	2.8	ug/kg	
67-66-3	Chloroform	ND	7.0	2.4	ug/kg	
95-49-8	o-Chlorotoluene	ND	7.0	1.4	ug/kg	
106-43-4	p-Chlorotoluene	ND	7.0	1.4	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	35	14	ug/kg	
75-15-0	Carbon disulfide	ND	7.0	1.5	ug/kg	
56-23-5	Carbon tetrachloride	ND	7.0	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	7.0	2.8	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	7.0	1.8	ug/kg	
563-58-6	1,1-Dichloropropene	ND	7.0	2.0	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	7.0	3.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	7.0	1.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	7.0	1.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	7.0	2.0	ug/kg	
142-28-9	1,3-Dichloropropane	ND	7.0	1.4	ug/kg	
594-20-7	2,2-Dichloropropane	ND	7.0	2.9	ug/kg	
124-48-1	Dibromochloromethane	ND	7.0	1.4	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	7.0	2.8	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	7.0	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	7.0	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	7.0	1.4	ug/kg	
95-50-1	o-Dichlorobenzene	ND	7.0	1.4	ug/kg	
106-46-7	p-Dichlorobenzene	ND	7.0	1.4	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	7.0	1.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	7.0	1.4	ug/kg	
100-41-4	Ethylbenzene	ND	7.0	1.4	ug/kg	
591-78-6	2-Hexanone	ND	35	7.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	7.0	1.7	ug/kg	
110-54-3	Hexane	ND	7.0	3.4	ug/kg	
98-82-8	Isopropylbenzene	ND	7.0	1.5	ug/kg	
99-87-6	p-Isopropyltoluene	ND	7.0	1.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	35	8.9	ug/kg	
74-83-9	Methyl bromide	ND	7.0	3.1	ug/kg	
74-87-3	Methyl chloride	ND	7.0	3.4	ug/kg	
74-95-3	Methylene bromide	ND	7.0	2.1	ug/kg	
75-09-2	Methylene chloride	ND	14	7.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	35	12	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	7.0	2.1	ug/kg	
91-20-3	Naphthalene	ND	7.0	2.8	ug/kg	
103-65-1	n-Propylbenzene	ND	7.0	1.7	ug/kg	
100-42-5	Styrene	ND	7.0	1.4	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	7.0	1.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	7.0	1.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	7.0	2.5	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	7.0	1.4	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	7.0	2.8	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	7.0	2.7	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	7.0	2.8	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	7.0	1.4	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	7.0	1.4	ug/kg	
127-18-4	Tetrachloroethylene	ND	7.0	1.7	ug/kg	
108-88-3	Toluene	ND	7.0	1.4	ug/kg	
79-01-6	Trichloroethylene	ND	7.0	1.7	ug/kg	
75-69-4	Trichlorofluoromethane	ND	7.0	2.8	ug/kg	
75-01-4	Vinyl chloride	ND	7.0	2.8	ug/kg	
108-05-4	Vinyl Acetate	ND	35	17	ug/kg	
	m,p-Xylene	ND	14	2.7	ug/kg	
95-47-6	o-Xylene	ND	7.0	1.4	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		80-121%
2037-26-5	Toluene-D8	88%		71-130%
460-00-4	4-Bromofluorobenzene	108%		59-148%
17060-07-0	1,2-Dichloroethane-D4	99%		77-123%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013433.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1200	470	ug/kg	
95-57-8	2-Chlorophenol	ND	240	47	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	240	47	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	240	47	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	240	47	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	470	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	470	150	ug/kg	
95-48-7	2-Methylphenol	ND	240	47	ug/kg	
	3&4-Methylphenol	ND	240	47	ug/kg	
88-75-5	2-Nitrophenol	ND	240	47	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	470	ug/kg	
87-86-5	Pentachlorophenol	ND	1200	470	ug/kg	
108-95-2	Phenol	ND	240	47	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	240	47	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	240	47	ug/kg	
83-32-9	Acenaphthene	ND	240	47	ug/kg	
208-96-8	Acenaphthylene	ND	240	47	ug/kg	
120-12-7	Anthracene	ND	240	47	ug/kg	
92-87-5	Benzidine	ND	2400	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	240	47	ug/kg	
50-32-8	Benzo(a)pyrene	ND	240	47	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	240	47	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	240	47	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	240	47	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	240	47	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	470	94	ug/kg	
100-51-6	Benzyl Alcohol	ND	240	47	ug/kg	
91-58-7	2-Chloronaphthalene	ND	240	47	ug/kg	
106-47-8	4-Chloroaniline	ND	240	94	ug/kg	
218-01-9	Chrysene	ND	240	47	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	240	47	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	240	47	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:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	240	47	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	240	47	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	240	61	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	240	61	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	240	57	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	240	47	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	240	47	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	470	94	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	240	47	ug/kg	
132-64-9	Dibenzofuran	ND	240	47	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	470	94	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	470	94	ug/kg	
84-66-2	Diethyl phthalate	ND	470	240	ug/kg	
131-11-3	Dimethyl phthalate	ND	470	94	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	470	240	ug/kg	
206-44-0	Fluoranthene	ND	240	47	ug/kg	
86-73-7	Fluorene	ND	240	47	ug/kg	
118-74-1	Hexachlorobenzene	ND	240	47	ug/kg	
87-68-3	Hexachlorobutadiene	ND	240	47	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	240	47	ug/kg	
67-72-1	Hexachloroethane	ND	240	57	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	240	47	ug/kg	
78-59-1	Isophorone	ND	240	47	ug/kg	
91-57-6	2-Methylnaphthalene	ND	240	47	ug/kg	
88-74-4	2-Nitroaniline	ND	470	94	ug/kg	
99-09-2	3-Nitroaniline	ND	470	94	ug/kg	
100-01-6	4-Nitroaniline	ND	470	94	ug/kg	
91-20-3	Naphthalene	ND	240	47	ug/kg	
98-95-3	Nitrobenzene	ND	240	47	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	240	47	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	240	94	ug/kg	
85-01-8	Phenanthrene	ND	240	47	ug/kg	
129-00-0	Pyrene	ND	240	47	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	240	47	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	59%		40-102%
4165-62-2	Phenol-d5	62%		41-100%
118-79-6	2,4,6-Tribromophenol	61%		42-108%

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:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	56%		40-105%
321-60-8	2-Fluorobiphenyl	57%		43-107%
1718-51-0	Terphenyl-d14	60%		45-119%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048758.D	1	07/16/09	AH	07/10/09 11:50	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.27 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.8	4.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	72%		56-136%
98-08-8	aaa-Trifluorotoluene	77%		61-121%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046555.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	24	12	ug/kg	
11104-28-2	Aroclor 1221	ND	24	19	ug/kg	
11141-16-5	Aroclor 1232	ND	24	19	ug/kg	
53469-21-9	Aroclor 1242	ND	24	12	ug/kg	
12672-29-6	Aroclor 1248	ND	24	12	ug/kg	
11097-69-1	Aroclor 1254	ND	24	12	ug/kg	
11096-82-5	Aroclor 1260	ND	24	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	97%		44-126%
2051-24-3	Decachlorobiphenyl	98%		39-157%

ND = Not detected MDL - Method Detection Limit
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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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	70.6
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26814.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	12	7.1	mg/kg	
	TPH (> C22-C36)	ND	12	7.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	67%		49-108%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-5		
Lab Sample ID:	F66564-5	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	70.6
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	1860	54	5.4	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Antimony [a]	3.3 U	41	3.3	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Arsenic [a]	2.6 J	5.4	2.5	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Barium [a]	25.1 J	54	2.7	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Beryllium [a]	0.54 U	1.4	0.54	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cadmium [a]	0.27 U	1.1	0.27	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Calcium	240000	3400	68	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Chromium [a]	1.4 J	2.7	0.44	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cobalt [a]	1.1 J	14	0.23	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Copper [a]	1.4 J	6.8	0.57	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Iron [a]	1290	27	7.1	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Lead [a]	3.1 U	68	3.1	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Magnesium [a]	2100	1400	27	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Manganese [a]	25.9	4.1	0.14	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.015 U	0.10	0.015	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [2]	SW846 7471A [4]
Nickel [a]	2.2 J	11	0.87	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Potassium [a]	854 J	2700	27	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Selenium [a]	7.3 J	68	2.1	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Silver [a]	0.33 U	2.7	0.33	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Sodium [a]	272 J	2700	230	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Thallium [a]	0.93 U	2.7	0.93	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Vanadium [a]	6.1 J	14	0.18	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Zinc [a]	3.9 J	5.4	1.0	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA7367
(2) Instrument QC Batch: MA7369
(3) Prep QC Batch: MP16679
(4) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056364.D	1	07/14/09	MM	07/10/09 11:50	n/a	VH2104
Run #2							

	Initial Weight
Run #1	5.75 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	55	28	ug/kg	
107-02-8	Acrolein	ND	28	11	ug/kg	
107-13-1	Acrylonitrile	ND	28	7.6	ug/kg	
71-43-2	Benzene	ND	5.5	1.1	ug/kg	
108-86-1	Bromobenzene	ND	5.5	1.1	ug/kg	
74-97-5	Bromochloromethane	ND	5.5	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	5.5	1.3	ug/kg	
75-25-2	Bromoform	ND	5.5	1.7	ug/kg	
104-51-8	n-Butylbenzene	ND	5.5	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.5	1.2	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.5	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	5.5	1.1	ug/kg	
75-00-3	Chloroethane	ND	5.5	2.2	ug/kg	
67-66-3	Chloroform	ND	5.5	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.5	1.1	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.5	1.1	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	28	11	ug/kg	
75-15-0	Carbon disulfide	ND	5.5	1.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.5	1.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.5	2.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.5	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.5	1.5	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.5	2.6	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.5	1.1	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.5	1.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.5	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.5	1.1	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.5	2.3	ug/kg	
124-48-1	Dibromochloromethane	ND	5.5	1.1	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.5	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.5	1.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.5	1.4	ug/kg	

ND = Not detected MDL - Method Detection Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	5.5	1.1	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.5	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.5	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.5	1.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.5	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	5.5	1.1	ug/kg	
591-78-6	2-Hexanone	ND	28	5.5	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.5	1.3	ug/kg	
110-54-3	Hexane	ND	5.5	2.6	ug/kg	
98-82-8	Isopropylbenzene	ND	5.5	1.2	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.5	1.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	28	7.1	ug/kg	
74-83-9	Methyl bromide	ND	5.5	2.4	ug/kg	
74-87-3	Methyl chloride	ND	5.5	2.6	ug/kg	
74-95-3	Methylene bromide	ND	5.5	1.7	ug/kg	
75-09-2	Methylene chloride	ND	11	5.5	ug/kg	
78-93-3	Methyl ethyl ketone	ND	28	9.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.5	1.7	ug/kg	
91-20-3	Naphthalene	ND	5.5	2.2	ug/kg	
103-65-1	n-Propylbenzene	ND	5.5	1.3	ug/kg	
100-42-5	Styrene	ND	5.5	1.1	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.5	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.5	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.5	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.5	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.5	2.2	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.5	2.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.5	2.2	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.5	1.1	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.5	1.1	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.5	1.3	ug/kg	
108-88-3	Toluene	ND	5.5	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	5.5	1.3	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.5	2.2	ug/kg	
75-01-4	Vinyl chloride	ND	5.5	2.2	ug/kg	
108-05-4	Vinyl Acetate	ND	28	13	ug/kg	
	m,p-Xylene	ND	11	2.1	ug/kg	
95-47-6	o-Xylene	ND	5.5	1.1	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		80-121%
2037-26-5	Toluene-D8	90%		71-130%
460-00-4	4-Bromofluorobenzene	105%		59-148%
17060-07-0	1,2-Dichloroethane-D4	109%		77-123%

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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013434.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	29.9 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1100	420	ug/kg	
95-57-8	2-Chlorophenol	ND	210	42	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	210	42	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	210	42	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	210	42	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	420	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	420	140	ug/kg	
95-48-7	2-Methylphenol	ND	210	42	ug/kg	
	3&4-Methylphenol	ND	210	42	ug/kg	
88-75-5	2-Nitrophenol	ND	210	42	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	420	ug/kg	
87-86-5	Pentachlorophenol	ND	1100	420	ug/kg	
108-95-2	Phenol	ND	210	42	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	210	42	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	210	42	ug/kg	
83-32-9	Acenaphthene	ND	210	42	ug/kg	
208-96-8	Acenaphthylene	ND	210	42	ug/kg	
120-12-7	Anthracene	ND	210	42	ug/kg	
92-87-5	Benzidine	ND	2100	1100	ug/kg	
56-55-3	Benzo(a)anthracene	ND	210	42	ug/kg	
50-32-8	Benzo(a)pyrene	ND	210	42	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	210	42	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	210	42	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	210	42	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	210	42	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	420	85	ug/kg	
100-51-6	Benzyl Alcohol	ND	210	42	ug/kg	
91-58-7	2-Chloronaphthalene	ND	210	42	ug/kg	
106-47-8	4-Chloroaniline	ND	210	85	ug/kg	
218-01-9	Chrysene	ND	210	42	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	210	42	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	210	42	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	210	42	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	210	42	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	210	55	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	210	55	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	210	51	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	210	42	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	210	42	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	420	85	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	210	42	ug/kg	
132-64-9	Dibenzofuran	ND	210	42	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	420	85	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	420	85	ug/kg	
84-66-2	Diethyl phthalate	ND	420	210	ug/kg	
131-11-3	Dimethyl phthalate	ND	420	85	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	420	210	ug/kg	
206-44-0	Fluoranthene	ND	210	42	ug/kg	
86-73-7	Fluorene	ND	210	42	ug/kg	
118-74-1	Hexachlorobenzene	ND	210	42	ug/kg	
87-68-3	Hexachlorobutadiene	ND	210	42	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	210	42	ug/kg	
67-72-1	Hexachloroethane	ND	210	51	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	210	42	ug/kg	
78-59-1	Isophorone	ND	210	42	ug/kg	
91-57-6	2-Methylnaphthalene	ND	210	42	ug/kg	
88-74-4	2-Nitroaniline	ND	420	85	ug/kg	
99-09-2	3-Nitroaniline	ND	420	85	ug/kg	
100-01-6	4-Nitroaniline	ND	420	85	ug/kg	
91-20-3	Naphthalene	ND	210	42	ug/kg	
98-95-3	Nitrobenzene	ND	210	42	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	210	42	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	210	85	ug/kg	
85-01-8	Phenanthrene	ND	210	42	ug/kg	
129-00-0	Pyrene	ND	210	42	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	210	42	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	66%		40-102%
4165-62-2	Phenol-d5	69%		41-100%
118-79-6	2,4,6-Tribromophenol	66%		42-108%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		40-105%
321-60-8	2-Fluorobiphenyl	64%		43-107%
1718-51-0	Terphenyl-d14	66%		45-119%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048759.D	1	07/16/09	AH	07/10/09 11:50	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.71 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.9	3.4	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	75%		56-136%
98-08-8	aaa-Trifluorotoluene	79%		61-121%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046556.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	29.5 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	21	11	ug/kg	
11104-28-2	Aroclor 1221	ND	21	17	ug/kg	
11141-16-5	Aroclor 1232	ND	21	17	ug/kg	
53469-21-9	Aroclor 1242	ND	21	11	ug/kg	
12672-29-6	Aroclor 1248	ND	21	11	ug/kg	
11097-69-1	Aroclor 1254	ND	21	11	ug/kg	
11096-82-5	Aroclor 1260	ND	21	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		44-126%
2051-24-3	Decachlorobiphenyl	98%		39-157%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	78.9
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26815.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	11	6.3	mg/kg	
	TPH (> C22-C36)	ND	11	6.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		49-108%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP03-10		
Lab Sample ID:	F66564-6	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	78.9
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	10800	48	4.8	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Antimony [a]	2.9 U	36	2.9	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Arsenic [a]	5.8	4.8	2.2	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Barium [a]	60.7	48	2.4	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Beryllium [a]	0.61 J	1.2	0.48	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cadmium [a]	0.24 U	0.97	0.24	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Calcium	188000	3000	60	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Chromium [a]	10.9	2.4	0.39	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cobalt [a]	4.1 J	12	0.20	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Copper [a]	5.8 J	6.0	0.51	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Iron [a]	9190	24	6.3	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Lead [a]	5.6 J	60	2.7	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Magnesium [a]	18600	1200	24	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Manganese [a]	105	3.6	0.12	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.014 U	0.099	0.014	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [2]	SW846 7471A [4]
Nickel [a]	9.7	9.7	0.77	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Potassium [a]	3470	2400	24	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Selenium [a]	5.2 J	60	1.9	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Silver [a]	0.29 U	2.4	0.29	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Sodium [a]	559 J	2400	200	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Thallium [a]	0.82 U	2.4	0.82	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Vanadium [a]	22.0	12	0.16	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Zinc [a]	25.8	4.8	0.92	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA7367
(2) Instrument QC Batch: MA7369
(3) Prep QC Batch: MP16679
(4) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056365.D	1	07/14/09	MM	07/10/09 11:50	n/a	VH2104
Run #2							

	Initial Weight
Run #1	5.12 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	64	32	ug/kg	
107-02-8	Acrolein	ND	32	12	ug/kg	
107-13-1	Acrylonitrile	ND	32	8.8	ug/kg	
71-43-2	Benzene	ND	6.4	1.3	ug/kg	
108-86-1	Bromobenzene	ND	6.4	1.3	ug/kg	
74-97-5	Bromochloromethane	ND	6.4	2.2	ug/kg	
75-27-4	Bromodichloromethane	ND	6.4	1.5	ug/kg	
75-25-2	Bromoform	ND	6.4	1.9	ug/kg	
104-51-8	n-Butylbenzene	ND	6.4	1.8	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.4	1.4	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.4	1.4	ug/kg	
108-90-7	Chlorobenzene	ND	6.4	1.3	ug/kg	
75-00-3	Chloroethane	ND	6.4	2.5	ug/kg	
67-66-3	Chloroform	ND	6.4	2.2	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.4	1.3	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.4	1.3	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	32	13	ug/kg	
75-15-0	Carbon disulfide	ND	6.4	1.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.4	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.4	2.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.4	1.7	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.4	1.8	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.4	3.1	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.4	1.3	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.4	1.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.4	1.8	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.4	1.3	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.4	2.7	ug/kg	
124-48-1	Dibromochloromethane	ND	6.4	1.3	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.4	2.5	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.4	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.4	1.7	ug/kg	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	6.4	1.3	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.4	1.3	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.4	1.3	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.4	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.4	1.3	ug/kg	
100-41-4	Ethylbenzene	ND	6.4	1.3	ug/kg	
591-78-6	2-Hexanone	ND	32	6.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.4	1.5	ug/kg	
110-54-3	Hexane	ND	6.4	3.1	ug/kg	
98-82-8	Isopropylbenzene	ND	6.4	1.4	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.4	1.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	32	8.1	ug/kg	
74-83-9	Methyl bromide	ND	6.4	2.8	ug/kg	
74-87-3	Methyl chloride	ND	6.4	3.1	ug/kg	
74-95-3	Methylene bromide	ND	6.4	1.9	ug/kg	
75-09-2	Methylene chloride	ND	13	6.4	ug/kg	
78-93-3	Methyl ethyl ketone	ND	32	11	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.4	1.9	ug/kg	
91-20-3	Naphthalene	ND	6.4	2.5	ug/kg	
103-65-1	n-Propylbenzene	ND	6.4	1.5	ug/kg	
100-42-5	Styrene	ND	6.4	1.3	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.4	1.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.4	1.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.4	2.3	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.4	1.3	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.4	2.5	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.4	2.4	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.4	2.5	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	6.4	1.3	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.4	1.3	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.4	1.5	ug/kg	
108-88-3	Toluene	ND	6.4	1.3	ug/kg	
79-01-6	Trichloroethylene	ND	6.4	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.4	2.5	ug/kg	
75-01-4	Vinyl chloride	ND	6.4	2.5	ug/kg	
108-05-4	Vinyl Acetate	ND	32	15	ug/kg	
	m,p-Xylene	ND	13	2.4	ug/kg	
95-47-6	o-Xylene	ND	6.4	1.3	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		80-121%
2037-26-5	Toluene-D8	91%		71-130%
460-00-4	4-Bromofluorobenzene	107%		59-148%
17060-07-0	1,2-Dichloroethane-D4	97%		77-123%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013435.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	29.9 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1100	440	ug/kg	
95-57-8	2-Chlorophenol	ND	220	44	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	220	44	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	220	44	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	220	44	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1100	440	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	440	140	ug/kg	
95-48-7	2-Methylphenol	ND	220	44	ug/kg	
	3&4-Methylphenol	ND	220	44	ug/kg	
88-75-5	2-Nitrophenol	ND	220	44	ug/kg	
100-02-7	4-Nitrophenol	ND	1100	440	ug/kg	
87-86-5	Pentachlorophenol	ND	1100	440	ug/kg	
108-95-2	Phenol	ND	220	44	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	220	44	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	220	44	ug/kg	
83-32-9	Acenaphthene	ND	220	44	ug/kg	
208-96-8	Acenaphthylene	ND	220	44	ug/kg	
120-12-7	Anthracene	ND	220	44	ug/kg	
92-87-5	Benzidine	ND	2200	1100	ug/kg	
56-55-3	Benzo(a)anthracene	ND	220	44	ug/kg	
50-32-8	Benzo(a)pyrene	ND	220	44	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	220	44	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	220	44	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	220	44	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	220	44	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	440	87	ug/kg	
100-51-6	Benzyl Alcohol	ND	220	44	ug/kg	
91-58-7	2-Chloronaphthalene	ND	220	44	ug/kg	
106-47-8	4-Chloroaniline	ND	220	87	ug/kg	
218-01-9	Chrysene	ND	220	44	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	220	44	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	220	44	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	220	44	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	220	44	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	220	57	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	220	57	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	220	52	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	220	44	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	220	44	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	440	87	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	220	44	ug/kg	
132-64-9	Dibenzofuran	ND	220	44	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	440	87	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	440	87	ug/kg	
84-66-2	Diethyl phthalate	ND	440	220	ug/kg	
131-11-3	Dimethyl phthalate	ND	440	87	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	440	220	ug/kg	
206-44-0	Fluoranthene	ND	220	44	ug/kg	
86-73-7	Fluorene	ND	220	44	ug/kg	
118-74-1	Hexachlorobenzene	ND	220	44	ug/kg	
87-68-3	Hexachlorobutadiene	ND	220	44	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	220	44	ug/kg	
67-72-1	Hexachloroethane	ND	220	52	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	220	44	ug/kg	
78-59-1	Isophorone	ND	220	44	ug/kg	
91-57-6	2-Methylnaphthalene	ND	220	44	ug/kg	
88-74-4	2-Nitroaniline	ND	440	87	ug/kg	
99-09-2	3-Nitroaniline	ND	440	87	ug/kg	
100-01-6	4-Nitroaniline	ND	440	87	ug/kg	
91-20-3	Naphthalene	ND	220	44	ug/kg	
98-95-3	Nitrobenzene	ND	220	44	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	220	44	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	220	87	ug/kg	
85-01-8	Phenanthrene	ND	220	44	ug/kg	
129-00-0	Pyrene	ND	220	44	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	220	44	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	65%		40-102%
4165-62-2	Phenol-d5	68%		41-100%
118-79-6	2,4,6-Tribromophenol	65%		42-108%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		40-105%
321-60-8	2-Fluorobiphenyl	65%		43-107%
1718-51-0	Terphenyl-d14	65%		45-119%

ND = Not detected MDL - Method Detection Limit
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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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048760.D	1	07/16/09	AH	07/10/09 11:50	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.64 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.5	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	72%		56-136%
98-08-8	aaa-Trifluorotoluene	78%		61-121%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046565.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	30.4 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	21	11	ug/kg	
11104-28-2	Aroclor 1221	ND	21	17	ug/kg	
11141-16-5	Aroclor 1232	ND	21	17	ug/kg	
53469-21-9	Aroclor 1242	ND	21	11	ug/kg	
12672-29-6	Aroclor 1248	ND	21	11	ug/kg	
11097-69-1	Aroclor 1254	ND	21	11	ug/kg	
11096-82-5	Aroclor 1260	ND	21	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		44-126%
2051-24-3	Decachlorobiphenyl	103%		39-157%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	76.7
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26816.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	11	6.5	mg/kg	
	TPH (> C22-C36)	ND	11	6.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		49-108%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-5		
Lab Sample ID:	F66564-7	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	76.7
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	3820	50	5.0	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Antimony [a]	3.0 U	38	3.0	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Arsenic [a]	2.4 J	5.0	2.3	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Barium [a]	38.3 J	50	2.5	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Beryllium [a]	0.50 U	1.3	0.50	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cadmium [a]	0.25 U	1.0	0.25	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Calcium	201000	3100	63	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Chromium [a]	3.4	2.5	0.40	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cobalt [a]	1.3 J	13	0.21	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Copper [a]	2.6 J	6.3	0.53	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Iron [a]	2730	25	6.5	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Lead [a]	2.8 U	63	2.8	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Magnesium [a]	3660	1300	25	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Manganese [a]	39.5	3.8	0.13	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.014 U	0.099	0.014	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [2]	SW846 7471A [4]
Nickel [a]	2.9 J	10	0.80	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Potassium [a]	1570 J	2500	25	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Selenium [a]	6.1 J	63	1.9	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Silver [a]	0.30 U	2.5	0.30	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Sodium [a]	224 J	2500	210	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Thallium [a]	0.85 U	2.5	0.85	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Vanadium [a]	8.5 J	13	0.17	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Zinc [a]	7.9	5.0	0.95	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA7367
(2) Instrument QC Batch: MA7369
(3) Prep QC Batch: MP16679
(4) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056366.D	1	07/14/09	MM	07/10/09 11:50	n/a	VH2104
Run #2							

	Initial Weight
Run #1	5.65 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	55	27	ug/kg	
107-02-8	Acrolein	ND	27	11	ug/kg	
107-13-1	Acrylonitrile	ND	27	7.5	ug/kg	
71-43-2	Benzene	ND	5.5	1.1	ug/kg	
108-86-1	Bromobenzene	ND	5.5	1.1	ug/kg	
74-97-5	Bromochloromethane	ND	5.5	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	5.5	1.3	ug/kg	
75-25-2	Bromoform	ND	5.5	1.6	ug/kg	
104-51-8	n-Butylbenzene	ND	5.5	1.5	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.5	1.2	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.5	1.2	ug/kg	
108-90-7	Chlorobenzene	ND	5.5	1.1	ug/kg	
75-00-3	Chloroethane	ND	5.5	2.2	ug/kg	
67-66-3	Chloroform	ND	5.5	1.9	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.5	1.1	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.5	1.1	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	27	11	ug/kg	
75-15-0	Carbon disulfide	ND	5.5	1.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.5	1.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.5	2.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.5	1.4	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.5	1.5	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.5	2.6	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.5	1.1	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.5	1.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.5	1.5	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.5	1.1	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.5	2.3	ug/kg	
124-48-1	Dibromochloromethane	ND	5.5	1.1	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.5	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.5	1.7	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.5	1.4	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:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	5.5	1.1	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.5	1.1	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.5	1.1	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.5	1.3	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.5	1.1	ug/kg	
100-41-4	Ethylbenzene	ND	5.5	1.1	ug/kg	
591-78-6	2-Hexanone	ND	27	5.5	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.5	1.3	ug/kg	
110-54-3	Hexane	ND	5.5	2.6	ug/kg	
98-82-8	Isopropylbenzene	ND	5.5	1.2	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.5	1.2	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	27	7.0	ug/kg	
74-83-9	Methyl bromide	ND	5.5	2.4	ug/kg	
74-87-3	Methyl chloride	ND	5.5	2.6	ug/kg	
74-95-3	Methylene bromide	ND	5.5	1.6	ug/kg	
75-09-2	Methylene chloride [a]	6.5	11	5.5	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	27	9.1	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.5	1.6	ug/kg	
91-20-3	Naphthalene	ND	5.5	2.2	ug/kg	
103-65-1	n-Propylbenzene	ND	5.5	1.3	ug/kg	
100-42-5	Styrene	ND	5.5	1.1	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.5	1.1	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.5	1.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.5	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.5	1.1	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.5	2.2	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	5.5	2.1	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.5	2.2	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.5	1.1	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.5	1.1	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.5	1.3	ug/kg	
108-88-3	Toluene	ND	5.5	1.1	ug/kg	
79-01-6	Trichloroethylene	ND	5.5	1.3	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.5	2.2	ug/kg	
75-01-4	Vinyl chloride	ND	5.5	2.2	ug/kg	
108-05-4	Vinyl Acetate	ND	27	13	ug/kg	
	m,p-Xylene	ND	11	2.1	ug/kg	
95-47-6	o-Xylene	ND	5.5	1.1	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:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		80-121%
2037-26-5	Toluene-D8	90%		71-130%
460-00-4	4-Bromofluorobenzene	105%		59-148%
17060-07-0	1,2-Dichloroethane-D4	101%		77-123%

(a) 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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013436.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	30.6 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1000	400	ug/kg	
95-57-8	2-Chlorophenol	ND	200	40	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	200	40	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	200	40	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	40	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1000	400	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	400	130	ug/kg	
95-48-7	2-Methylphenol	ND	200	40	ug/kg	
	3&4-Methylphenol	ND	200	40	ug/kg	
88-75-5	2-Nitrophenol	ND	200	40	ug/kg	
100-02-7	4-Nitrophenol	ND	1000	400	ug/kg	
87-86-5	Pentachlorophenol	ND	1000	400	ug/kg	
108-95-2	Phenol	ND	200	40	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	200	40	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	200	40	ug/kg	
83-32-9	Acenaphthene	ND	200	40	ug/kg	
208-96-8	Acenaphthylene	ND	200	40	ug/kg	
120-12-7	Anthracene	ND	200	40	ug/kg	
92-87-5	Benzidine	ND	2000	1000	ug/kg	
56-55-3	Benzo(a)anthracene	ND	200	40	ug/kg	
50-32-8	Benzo(a)pyrene	ND	200	40	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	40	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	200	40	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	200	40	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	200	40	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	400	81	ug/kg	
100-51-6	Benzyl Alcohol	ND	200	40	ug/kg	
91-58-7	2-Chloronaphthalene	ND	200	40	ug/kg	
106-47-8	4-Chloroaniline	ND	200	81	ug/kg	
218-01-9	Chrysene	ND	200	40	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	200	40	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	200	40	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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	200	40	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	200	40	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	200	52	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	200	52	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	200	48	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	200	40	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	200	40	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	400	81	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	200	40	ug/kg	
132-64-9	Dibenzofuran	ND	200	40	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	400	81	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	400	81	ug/kg	
84-66-2	Diethyl phthalate	ND	400	200	ug/kg	
131-11-3	Dimethyl phthalate	ND	400	81	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	400	200	ug/kg	
206-44-0	Fluoranthene	ND	200	40	ug/kg	
86-73-7	Fluorene	ND	200	40	ug/kg	
118-74-1	Hexachlorobenzene	ND	200	40	ug/kg	
87-68-3	Hexachlorobutadiene	ND	200	40	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	200	40	ug/kg	
67-72-1	Hexachloroethane	ND	200	48	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	200	40	ug/kg	
78-59-1	Isophorone	ND	200	40	ug/kg	
91-57-6	2-Methylnaphthalene	ND	200	40	ug/kg	
88-74-4	2-Nitroaniline	ND	400	81	ug/kg	
99-09-2	3-Nitroaniline	ND	400	81	ug/kg	
100-01-6	4-Nitroaniline	ND	400	81	ug/kg	
91-20-3	Naphthalene	ND	200	40	ug/kg	
98-95-3	Nitrobenzene	ND	200	40	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	40	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	200	81	ug/kg	
85-01-8	Phenanthrene	ND	200	40	ug/kg	
129-00-0	Pyrene	ND	200	40	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	40	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	63%		40-102%
4165-62-2	Phenol-d5	66%		41-100%
118-79-6	2,4,6-Tribromophenol	62%		42-108%

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:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	58%		40-105%
321-60-8	2-Fluorobiphenyl	60%		43-107%
1718-51-0	Terphenyl-d14	60%		45-119%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048761.D	1	07/16/09	AH	07/10/09 11:50	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.78 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.5	3.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	74%		56-136%
98-08-8	aaa-Trifluorotoluene	77%		61-121%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046566.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	29.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	21	10	ug/kg	
11104-28-2	Aroclor 1221	ND	21	17	ug/kg	
11141-16-5	Aroclor 1232	ND	21	17	ug/kg	
53469-21-9	Aroclor 1242	ND	21	10	ug/kg	
12672-29-6	Aroclor 1248	ND	21	10	ug/kg	
11097-69-1	Aroclor 1254	ND	21	10	ug/kg	
11096-82-5	Aroclor 1260	ND	21	10	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	92%		44-126%
2051-24-3	Decachlorobiphenyl	104%		39-157%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	81.1
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26817.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	10	6.2	mg/kg	
	TPH (> C22-C36)	ND	10	6.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		49-108%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-10		
Lab Sample ID:	F66564-8	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	81.1
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	7640	48	4.8	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Antimony [a]	2.9 U	36	2.9	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Arsenic [a]	3.0 J	4.8	2.2	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Barium [a]	75.6	48	2.4	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Beryllium [a]	0.48 U	1.2	0.48	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cadmium [a]	0.24 U	0.97	0.24	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Calcium	155000	3000	60	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Chromium [a]	8.0	2.4	0.39	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cobalt [a]	2.0 J	12	0.20	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Copper [a]	3.2 J	6.0	0.51	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Iron [a]	6590	24	6.3	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Lead [a]	3.5 J	60	2.7	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Magnesium [a]	5220	1200	24	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Manganese [a]	71.4	3.6	0.12	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.015 U	0.10	0.015	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [2]	SW846 7471A [4]
Nickel [a]	5.7 J	9.7	0.77	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Potassium [a]	2540	2400	24	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Selenium [a]	3.5 J	60	1.9	mg/kg	10	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Silver [a]	0.29 U	2.4	0.29	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Sodium [a]	228 J	2400	200	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Thallium [a]	0.82 U	2.4	0.82	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Vanadium [a]	15.4	12	0.16	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Zinc [a]	17.3	4.8	0.92	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA7367
(2) Instrument QC Batch: MA7369
(3) Prep QC Batch: MP16679
(4) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H056367.D	1	07/14/09	MM	07/10/09 12:24	n/a	VH2104
Run #2							

	Initial Weight
Run #1	5.75 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	62	31	ug/kg	
107-02-8	Acrolein	ND	31	12	ug/kg	
107-13-1	Acrylonitrile	ND	31	8.5	ug/kg	
71-43-2	Benzene	ND	6.2	1.2	ug/kg	
108-86-1	Bromobenzene	ND	6.2	1.2	ug/kg	
74-97-5	Bromochloromethane	ND	6.2	2.1	ug/kg	
75-27-4	Bromodichloromethane	ND	6.2	1.5	ug/kg	
75-25-2	Bromoform	ND	6.2	1.9	ug/kg	
104-51-8	n-Butylbenzene	ND	6.2	1.7	ug/kg	
135-98-8	sec-Butylbenzene	ND	6.2	1.4	ug/kg	
98-06-6	tert-Butylbenzene	ND	6.2	1.4	ug/kg	
108-90-7	Chlorobenzene	ND	6.2	1.2	ug/kg	
75-00-3	Chloroethane	ND	6.2	2.5	ug/kg	
67-66-3	Chloroform	ND	6.2	2.1	ug/kg	
95-49-8	o-Chlorotoluene	ND	6.2	1.2	ug/kg	
106-43-4	p-Chlorotoluene	ND	6.2	1.2	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	31	12	ug/kg	
75-15-0	Carbon disulfide	ND	6.2	1.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.2	1.7	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.2	2.5	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.2	1.6	ug/kg	
563-58-6	1,1-Dichloropropene	ND	6.2	1.7	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	6.2	3.0	ug/kg	
106-93-4	1,2-Dibromoethane	ND	6.2	1.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.2	1.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.2	1.7	ug/kg	
142-28-9	1,3-Dichloropropane	ND	6.2	1.2	ug/kg	
594-20-7	2,2-Dichloropropane	ND	6.2	2.6	ug/kg	
124-48-1	Dibromochloromethane	ND	6.2	1.2	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	6.2	2.5	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.2	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.2	1.6	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	6.2	1.2	ug/kg	
95-50-1	o-Dichlorobenzene	ND	6.2	1.2	ug/kg	
106-46-7	p-Dichlorobenzene	ND	6.2	1.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.2	1.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.2	1.2	ug/kg	
100-41-4	Ethylbenzene	ND	6.2	1.2	ug/kg	
591-78-6	2-Hexanone	ND	31	6.2	ug/kg	
87-68-3	Hexachlorobutadiene	ND	6.2	1.5	ug/kg	
110-54-3	Hexane	ND	6.2	3.0	ug/kg	
98-82-8	Isopropylbenzene	ND	6.2	1.4	ug/kg	
99-87-6	p-Isopropyltoluene	ND	6.2	1.4	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	31	7.9	ug/kg	
74-83-9	Methyl bromide	ND	6.2	2.7	ug/kg	
74-87-3	Methyl chloride	ND	6.2	3.0	ug/kg	
74-95-3	Methylene bromide	ND	6.2	1.9	ug/kg	
75-09-2	Methylene chloride [a]	7.1	12	6.2	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	31	10	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.2	1.9	ug/kg	
91-20-3	Naphthalene	ND	6.2	2.5	ug/kg	
103-65-1	n-Propylbenzene	ND	6.2	1.5	ug/kg	
100-42-5	Styrene	ND	6.2	1.2	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	6.2	1.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.2	1.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.2	2.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.2	1.2	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	6.2	2.5	ug/kg	
96-18-4	1,2,3-Trichloropropane	ND	6.2	2.3	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	6.2	2.5	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	6.2	1.2	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	6.2	1.2	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.2	1.5	ug/kg	
108-88-3	Toluene	ND	6.2	1.2	ug/kg	
79-01-6	Trichloroethylene	ND	6.2	1.5	ug/kg	
75-69-4	Trichlorofluoromethane	ND	6.2	2.5	ug/kg	
75-01-4	Vinyl chloride	ND	6.2	2.5	ug/kg	
108-05-4	Vinyl Acetate	ND	31	15	ug/kg	
	m,p-Xylene	ND	12	2.3	ug/kg	
95-47-6	o-Xylene	ND	6.2	1.2	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8260B SW846 5035	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		80-121%
2037-26-5	Toluene-D8	89%		71-130%
460-00-4	4-Bromofluorobenzene	112%		59-148%
17060-07-0	1,2-Dichloroethane-D4	108%		77-123%

(a) 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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013437.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1200	470	ug/kg	
95-57-8	2-Chlorophenol	ND	230	47	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	230	47	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	230	47	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	230	47	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1200	470	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	470	150	ug/kg	
95-48-7	2-Methylphenol	ND	230	47	ug/kg	
	3&4-Methylphenol	ND	230	47	ug/kg	
88-75-5	2-Nitrophenol	ND	230	47	ug/kg	
100-02-7	4-Nitrophenol	ND	1200	470	ug/kg	
87-86-5	Pentachlorophenol	ND	1200	470	ug/kg	
108-95-2	Phenol	ND	230	47	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	230	47	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	230	47	ug/kg	
83-32-9	Acenaphthene	ND	230	47	ug/kg	
208-96-8	Acenaphthylene	ND	230	47	ug/kg	
120-12-7	Anthracene	ND	230	47	ug/kg	
92-87-5	Benzidine	ND	2300	1200	ug/kg	
56-55-3	Benzo(a)anthracene	ND	230	47	ug/kg	
50-32-8	Benzo(a)pyrene	ND	230	47	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	230	47	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	230	47	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	230	47	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	230	47	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	470	94	ug/kg	
100-51-6	Benzyl Alcohol	ND	230	47	ug/kg	
91-58-7	2-Chloronaphthalene	ND	230	47	ug/kg	
106-47-8	4-Chloroaniline	ND	230	94	ug/kg	
218-01-9	Chrysene	ND	230	47	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	230	47	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	230	47	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	230	47	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	230	47	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	230	61	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	230	61	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	230	56	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	230	47	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	230	47	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	470	94	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	230	47	ug/kg	
132-64-9	Dibenzofuran	ND	230	47	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	470	94	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	470	94	ug/kg	
84-66-2	Diethyl phthalate	ND	470	230	ug/kg	
131-11-3	Dimethyl phthalate	ND	470	94	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	470	230	ug/kg	
206-44-0	Fluoranthene	ND	230	47	ug/kg	
86-73-7	Fluorene	ND	230	47	ug/kg	
118-74-1	Hexachlorobenzene	ND	230	47	ug/kg	
87-68-3	Hexachlorobutadiene	ND	230	47	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	230	47	ug/kg	
67-72-1	Hexachloroethane	ND	230	56	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	230	47	ug/kg	
78-59-1	Isophorone	ND	230	47	ug/kg	
91-57-6	2-Methylnaphthalene	ND	230	47	ug/kg	
88-74-4	2-Nitroaniline	ND	470	94	ug/kg	
99-09-2	3-Nitroaniline	ND	470	94	ug/kg	
100-01-6	4-Nitroaniline	ND	470	94	ug/kg	
91-20-3	Naphthalene	ND	230	47	ug/kg	
98-95-3	Nitrobenzene	ND	230	47	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	230	47	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	230	94	ug/kg	
85-01-8	Phenanthrene	ND	230	47	ug/kg	
129-00-0	Pyrene	ND	230	47	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	230	47	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	61%		40-102%
4165-62-2	Phenol-d5	64%		41-100%
118-79-6	2,4,6-Tribromophenol	62%		42-108%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3550B	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	59%		40-105%
321-60-8	2-Fluorobiphenyl	60%		43-107%
1718-51-0	Terphenyl-d14	63%		45-119%

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 SW846 5035	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048764.D	1	07/16/09	AH	07/10/09 12:24	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.43 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.6	4.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	71%		56-136%
98-08-8	aaa-Trifluorotoluene	78%		61-121%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3550B	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046567.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
Run #2							

	Initial Weight	Final Volume
Run #1	29.9 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	24	12	ug/kg	
11104-28-2	Aroclor 1221	ND	24	19	ug/kg	
11141-16-5	Aroclor 1232	ND	24	19	ug/kg	
53469-21-9	Aroclor 1242	ND	24	12	ug/kg	
12672-29-6	Aroclor 1248	ND	24	12	ug/kg	
11097-69-1	Aroclor 1254	ND	24	12	ug/kg	
11096-82-5	Aroclor 1260	ND	24	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	90%		44-126%
2051-24-3	Decachlorobiphenyl	102%		39-157%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	70.5
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26861.D	1	07/16/09	SL	07/15/09	OP29611	GLL1018
Run #2							

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	12	7.0	mg/kg	
	TPH (> C22-C36)	ND	12	7.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	80%		49-108%

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

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Report of Analysis

Client Sample ID:	SWMU122-DP04-10-A		
Lab Sample ID:	F66564-9	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/10/09
		Percent Solids:	70.5
Project:	Holloman AFB; SWMU 122 & 123		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	8390	56	5.6	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Antimony [a]	1.3 U	17	1.3	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Arsenic [a]	7.5	2.2	1.0	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Barium [a]	139	56	2.8	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Beryllium [a]	0.56 U	1.4	0.56	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cadmium [a]	0.28 U	1.1	0.28	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Calcium [a]	115000	1400	28	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Chromium [a]	8.6	2.8	0.45	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Cobalt [a]	3.4 J	14	0.23	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Copper [a]	5.3 J	7.0	0.59	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Iron [a]	8490	28	7.3	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Lead [a]	4.4 J	28	1.3	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Magnesium [a]	12400	1400	28	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Manganese [a]	105	4.2	0.14	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Mercury	0.016 U	0.11	0.016	mg/kg	1	07/17/09	07/17/09	LM	SW846 7471A [2]	SW846 7471A [4]
Nickel [a]	7.5 J	11	0.90	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Potassium [a]	2760 J	2800	28	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Selenium [a]	2.5 J	28	0.87	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Silver [a]	0.34 U	2.8	0.34	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Sodium [a]	230 U	2800	230	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Thallium [a]	0.95 U	2.8	0.95	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Vanadium [a]	27.4	14	0.19	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]
Zinc [a]	19.3	5.6	1.1	mg/kg	4	07/15/09	07/16/09	RS	SW846 6010B [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA7367
(2) Instrument QC Batch: MA7369
(3) Prep QC Batch: MP16679
(4) Prep QC Batch: MP16690

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-10	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	G0059267.D	1	07/27/09	MM	n/a	n/a	VG2231
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
107-02-8	Acrolein	ND	25	9.8	ug/kg	
107-13-1	Acrylonitrile	ND	25	6.9	ug/kg	
71-43-2	Benzene	ND	5.0	1.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.2	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	1.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.4	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.1	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-10	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	5.0	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
591-78-6	2-Hexanone	ND	25	5.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	1.2	ug/kg	
110-54-3	Hexane	ND	5.0	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.1	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	6.4	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.2	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	8.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.5	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.2	ug/kg	
100-42-5	Styrene	ND	5.0	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	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	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.2	ug/kg	
108-88-3	Toluene	ND	5.0	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	12	ug/kg	
	m,p-Xylene	ND	10	1.9	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-10	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		80-121%
2037-26-5	Toluene-D8	91%		71-130%
460-00-4	4-Bromofluorobenzene	98%		59-148%
17060-07-0	1,2-Dichloroethane-D4	102%		77-123%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

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

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Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-10	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR048765.D	1	07/16/09	AH	n/a	n/a	GQR2114
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	74%		56-136%
98-08-8	aaa-Trifluorotoluene	76%		61-121%

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

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Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-11	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	H056526.D	1	07/28/09	MM	n/a	n/a	VH2111
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
107-02-8	Acrolein	ND	25	9.8	ug/kg	
107-13-1	Acrylonitrile	ND	25	6.9	ug/kg	
71-43-2	Benzene	ND	5.0	1.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.2	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	1.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.4	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.1	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-11	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	5.0	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
591-78-6	2-Hexanone	ND	25	5.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	1.2	ug/kg	
110-54-3	Hexane	ND	5.0	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.1	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	6.4	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.2	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	8.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.5	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.2	ug/kg	
100-42-5	Styrene	ND	5.0	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	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	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.2	ug/kg	
108-88-3	Toluene	ND	5.0	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	12	ug/kg	
	m,p-Xylene	ND	10	1.9	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-11	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	119%		80-121%
2037-26-5	Toluene-D8	81%		71-130%
460-00-4	4-Bromofluorobenzene	110%		59-148%
17060-07-0	1,2-Dichloroethane-D4	108%		77-123%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-11	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QR048956.D	1	07/29/09	AH	n/a	n/a	GQR2123
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	96%		56-136%
98-08-8	aaa-Trifluorotoluene	82%		61-121%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-12	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	H056527.D	1	07/28/09	MM	n/a	n/a	VH2111
Run #2							

	Initial Weight
Run #1	5.00 g
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
107-02-8	Acrolein	ND	25	9.8	ug/kg	
107-13-1	Acrylonitrile	ND	25	6.9	ug/kg	
71-43-2	Benzene	ND	5.0	1.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.2	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	1.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.4	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.1	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-12	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	5.0	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
591-78-6	2-Hexanone	ND	25	5.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	1.2	ug/kg	
110-54-3	Hexane	ND	5.0	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.1	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	6.4	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.2	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride [b]	10.1	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	8.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.5	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.2	ug/kg	
100-42-5	Styrene	ND	5.0	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	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	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.2	ug/kg	
108-88-3	Toluene	ND	5.0	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	12	ug/kg	
	m,p-Xylene	ND	10	1.9	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	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

Accutest LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-12	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		80-121%
2037-26-5	Toluene-D8	82%		71-130%
460-00-4	4-Bromofluorobenzene	99%		59-148%
17060-07-0	1,2-Dichloroethane-D4	107%		77-123%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.
(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 LabLink@92516 11:18 06-Aug-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66564-12	**Date Sampled:**	07/09/09
Matrix:	SO - Trip Blank Soil	**Date Received:**	07/10/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QR048957.D	1	07/29/09	AH	n/a	n/a	GQR2123
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	87%		56-136%
98-08-8	aaa-Trifluorotoluene	81%		61-121%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

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:

- Certification Exceptions
- Chain of Custody

F66564

NATIONVIEW

PO# 09-0112

Page: 1 of 2

NationView Project No: 8080014.02.020

COC Number[1]: 7-9-09 (2)

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122 / 123

Client Name: USACE

Collected by: Craig McGriff, Zack Beck, Dustin McNeil

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry/Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU 122-DP01-10.5		09-Jul-2009	0815	5 - 10.5	N		SO	6	X	X	X	X	X									5
2	SWMU 122-DP01-5			0825	0 - 5	N		SO	6	X	X	X	X	X									5
3	SWMU 122-DP02-5			0850	0 - 5	N		SO	6	X	X	X	X	X									5
4	SWMU 122-DP02-10			0900	5 - 10	N		SO	6	X	X	X	X	X									5
4	SWMU 122-DP02-10-MS			0900	5 - 10	MS		SO	6	X	X	X	X	X									6
4	SWMU 122-DP02-10-MSD			0900	5 - 10	SD		SO	6	X	X	X	X	X									6
5	SWMU 122-DP03-5			0925	0 - 5	N		SO	6	X	X	X	X	X									6
6	SWMU 122-DP03-10			0935	5 - 10	N		SO	6	X	X	X	X	X									6
7	SWMU 122-DP04-5			1005	0 - 5	N		SO	6	X	X	X	X	X									7
8	SWMU 122-DP04-10			1015	5 - 10	N		SO	6	X	X	X	X	X									7
9	SWMU 122-DP04-10-a		↓	1015	5 - 10	FD		SO	6	X	X	X	X	X									7

Sample Analysis Requested (5) — Quality Assurance Samples (6)

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	[signature]	7/9/09	1500	[signature]		
2.	[signature]	7/10/09	9:00	[signature]	7/10/09	9:00
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Airbill Number:

Analytical Lab: Delivery Location:

Lab Recipient: Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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

3.6 3.8 3.2

F66564: Chain of Custody

Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66564 CLIENT: Nationview PROJECT: Hollowman AFB

DATE/TIME RECEIVED: 7/10/09 9:00 # OF COOLERS RECEIVED: 3 COOLER TEMPS: 3.6 2.8 3.2

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

AIRBILL NUMBERS: 8696 4911 0820

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] 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 NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] 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 NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? 44

NUMBER OF 5035 FIELD KITS ? 3TB

NUMBER OF LAB FILTERED METALS ? 3

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE CLR 7/10/09 TECHNICIAN SIGNATURE/DATE JC 7-10-09

ASBD 12/17/07

Job Change Order: F66564_7/28/2009

Requested Date:	7/28/2009	**Received Date:**	7/10/2009
Account Name:	Nation View	**Due Date:**	7/24/2009
Project Description:	Holloman AFB; SWMU 122 & 123	**Deliverable:**	COMMB
CSR:	JDS	**TAT (Days):**	2

Sample #:
F66564-

Change: Please log and report Trip Blanks not listed on COC for 8260 and GRO, per request of client. Thank you.

Above Changes Client, Marcia Olive per telephone **Date:** 7/28/2009

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

Page 1 of 1

F66564: Chain of Custody
Page 3 of 3

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: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2104-MB	H056356.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
107-02-8	Acrolein	ND	25	9.8	ug/kg	
107-13-1	Acrylonitrile	ND	25	6.9	ug/kg	
71-43-2	Benzene	ND	5.0	1.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.2	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	1.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.4	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.1	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.2	ug/kg	

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2104-MB	H056356.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
591-78-6	2-Hexanone	ND	25	5.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	1.2	ug/kg	
110-54-3	Hexane	ND	5.0	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.1	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	6.4	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.2	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	8.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.5	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.2	ug/kg	
100-42-5	Styrene	ND	5.0	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	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	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.2	ug/kg	
108-88-3	Toluene	ND	5.0	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	12	ug/kg	
	m,p-Xylene	ND	10	1.9	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	ug/kg	

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2104-MB	H056356.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	80-121%
2037-26-5	Toluene-D8	95%	71-130%
460-00-4	4-Bromofluorobenzene	108%	59-148%
17060-07-0	1,2-Dichloroethane-D4	98%	77-123%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG2231-MB	G0059245.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
107-02-8	Acrolein	ND	25	9.8	ug/kg	
107-13-1	Acrylonitrile	ND	25	6.9	ug/kg	
71-43-2	Benzene	ND	5.0	1.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.2	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	1.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.4	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.1	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.2	ug/kg	

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG2231-MB	G0059245.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
591-78-6	2-Hexanone	7.0	25	5.0	ug/kg	J
87-68-3	Hexachlorobutadiene	ND	5.0	1.2	ug/kg	
110-54-3	Hexane	ND	5.0	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.1	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	6.4	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.2	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	8.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.5	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.2	ug/kg	
100-42-5	Styrene	ND	5.0	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	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	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.2	ug/kg	
108-88-3	Toluene	ND	5.0	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	12	ug/kg	
	m,p-Xylene	ND	10	1.9	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	ug/kg	

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG2231-MB	G0059245.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	80-121%
2037-26-5	Toluene-D8	96%	71-130%
460-00-4	4-Bromofluorobenzene	108%	59-148%
17060-07-0	1,2-Dichloroethane-D4	101%	77-123%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2111-MB	H056510.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/kg	
107-02-8	Acrolein	ND	25	9.8	ug/kg	
107-13-1	Acrylonitrile	ND	25	6.9	ug/kg	
71-43-2	Benzene	ND	5.0	1.0	ug/kg	
108-86-1	Bromobenzene	ND	5.0	1.0	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	1.2	ug/kg	
75-25-2	Bromoform	ND	5.0	1.5	ug/kg	
104-51-8	n-Butylbenzene	ND	5.0	1.4	ug/kg	
135-98-8	sec-Butylbenzene	ND	5.0	1.1	ug/kg	
98-06-6	tert-Butylbenzene	ND	5.0	1.1	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	1.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	2.0	ug/kg	
67-66-3	Chloroform	ND	5.0	1.7	ug/kg	
95-49-8	o-Chlorotoluene	ND	5.0	1.0	ug/kg	
106-43-4	p-Chlorotoluene	ND	5.0	1.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	25	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	1.1	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	1.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	2.0	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.3	ug/kg	
563-58-6	1,1-Dichloropropene	ND	5.0	1.4	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	2.4	ug/kg	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	1.4	ug/kg	
142-28-9	1,3-Dichloropropane	ND	5.0	1.0	ug/kg	
594-20-7	2,2-Dichloropropane	ND	5.0	2.1	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.3	ug/kg	
541-73-1	m-Dichlorobenzene	ND	5.0	1.0	ug/kg	
95-50-1	o-Dichlorobenzene	ND	5.0	1.0	ug/kg	
106-46-7	p-Dichlorobenzene	ND	5.0	1.0	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.2	ug/kg	

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2111-MB	H056510.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/kg	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/kg	
591-78-6	2-Hexanone	ND	25	5.0	ug/kg	
87-68-3	Hexachlorobutadiene	ND	5.0	1.2	ug/kg	
110-54-3	Hexane	ND	5.0	2.4	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	1.1	ug/kg	
99-87-6	p-Isopropyltoluene	ND	5.0	1.1	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	25	6.4	ug/kg	
74-83-9	Methyl bromide	ND	5.0	2.2	ug/kg	
74-87-3	Methyl chloride	ND	5.0	2.4	ug/kg	
74-95-3	Methylene bromide	ND	5.0	1.5	ug/kg	
75-09-2	Methylene chloride	ND	10	5.0	ug/kg	
78-93-3	Methyl ethyl ketone	ND	25	8.3	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.5	ug/kg	
91-20-3	Naphthalene	ND	5.0	2.0	ug/kg	
103-65-1	n-Propylbenzene	ND	5.0	1.2	ug/kg	
100-42-5	Styrene	ND	5.0	1.0	ug/kg	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.1	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	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	1.9	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.0	ug/kg	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	1.0	ug/kg	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	1.0	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.0	1.2	ug/kg	
108-88-3	Toluene	ND	5.0	1.0	ug/kg	
79-01-6	Trichloroethylene	ND	5.0	1.2	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	2.0	ug/kg	
108-05-4	Vinyl Acetate	ND	25	12	ug/kg	
	m,p-Xylene	ND	10	1.9	ug/kg	
95-47-6	o-Xylene	ND	5.0	1.0	ug/kg	

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2111-MB	H056510.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	80-121%
2037-26-5	Toluene-D8	83%	71-130%
460-00-4	4-Bromofluorobenzene	109%	59-148%
17060-07-0	1,2-Dichloroethane-D4	102%	77-123%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2104-BS	H056355.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	250	215	86	61-144
107-02-8	Acrolein	250	135	54	27-156
107-13-1	Acrylonitrile	250	317	127	55-144
71-43-2	Benzene	50	56.1	112	78-130
108-86-1	Bromobenzene	50	47.7	95	78-123
74-97-5	Bromochloromethane	50	45.2	90	72-122
75-27-4	Bromodichloromethane	50	49.4	99	73-122
75-25-2	Bromoform	50	40.6	81	70-139
104-51-8	n-Butylbenzene	50	57.5	115	80-138
135-98-8	sec-Butylbenzene	50	52.8	106	82-132
98-06-6	tert-Butylbenzene	50	52.1	104	79-130
108-90-7	Chlorobenzene	50	50.8	102	83-122
75-00-3	Chloroethane	50	56.6	113	61-153
67-66-3	Chloroform	50	54.6	109	79-129
95-49-8	o-Chlorotoluene	50	50.8	102	77-123
106-43-4	p-Chlorotoluene	50	51.5	103	78-129
110-75-8	2-Chloroethyl vinyl ether	250	249	100	52-142
75-15-0	Carbon disulfide	50	52.9	106	61-142
56-23-5	Carbon tetrachloride	50	55.9	112	79-135
75-34-3	1,1-Dichloroethane	50	53.3	107	77-132
75-35-4	1,1-Dichloroethylene	50	53.6	107	66-132
563-58-6	1,1-Dichloropropene	50	56.1	112	81-133
96-12-8	1,2-Dibromo-3-chloropropane	50	49.4	99	67-129
106-93-4	1,2-Dibromoethane	50	41.3	83	77-126
107-06-2	1,2-Dichloroethane	50	48.4	97	78-129
78-87-5	1,2-Dichloropropane	50	50.5	101	74-127
142-28-9	1,3-Dichloropropane	50	45.7	91	78-118
594-20-7	2,2-Dichloropropane	50	59.0	118	80-137
124-48-1	Dibromochloromethane	50	39.4	79	78-117
75-71-8	Dichlorodifluoromethane	50	45.5	91	35-162
156-59-2	cis-1,2-Dichloroethylene	50	51.8	104	74-123
10061-01-5	cis-1,3-Dichloropropene	50	52.8	106	79-130
541-73-1	m-Dichlorobenzene	50	52.2	104	82-126
95-50-1	o-Dichlorobenzene	50	51.3	103	83-123
106-46-7	p-Dichlorobenzene	50	53.4	107	84-124
156-60-5	trans-1,2-Dichloroethylene	50	53.9	108	77-129

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2104-BS	H056355.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	51.8	104	87-131
100-41-4	Ethylbenzene	50	52.5	105	82-124
591-78-6	2-Hexanone	250	220	88	67-130
87-68-3	Hexachlorobutadiene	50	61.5	123	77-150
110-54-3	Hexane	50	59.0	118	65-147
98-82-8	Isopropylbenzene	50	59.3	119	82-133
99-87-6	p-Isopropyltoluene	50	55.4	111	82-132
108-10-1	4-Methyl-2-pentanone	250	239	96	69-125
74-83-9	Methyl bromide	50	46.8	94	60-146
74-87-3	Methyl chloride	50	52.1	104	58-163
74-95-3	Methylene bromide	50	50.2	100	75-128
75-09-2	Methylene chloride	50	53.7	107	62-140
78-93-3	Methyl ethyl ketone	250	231	92	66-134
1634-04-4	Methyl Tert Butyl Ether	50	49.6	99	70-131
91-20-3	Naphthalene	50	51.2	102	59-143
103-65-1	n-Propylbenzene	50	50.9	102	78-129
100-42-5	Styrene	50	47.3	95	79-123
630-20-6	1,1,1,2-Tetrachloroethane	50	48.9	98	81-121
71-55-6	1,1,1-Trichloroethane	50	57.1	114	80-133
79-34-5	1,1,2,2-Tetrachloroethane	50	46.8	94	70-128
79-00-5	1,1,2-Trichloroethane	50	44.2	88	76-118
87-61-6	1,2,3-Trichlorobenzene	50	68.9	138*	78-136
96-18-4	1,2,3-Trichloropropane	50	44.0	88	74-125
120-82-1	1,2,4-Trichlorobenzene	50	56.5	113	82-137
95-63-6	1,2,4-Trimethylbenzene	50	50.7	101	77-129
108-67-8	1,3,5-Trimethylbenzene	50	51.2	102	79-129
127-18-4	Tetrachloroethylene	50	47.1	94	79-132
108-88-3	Toluene	50	45.8	92	80-123
79-01-6	Trichloroethylene	50	52.5	105	78-132
75-69-4	Trichlorofluoromethane	50	59.5	119	67-149
75-01-4	Vinyl chloride	50	54.7	109	60-145
108-05-4	Vinyl Acetate	250	411	164	25-164
	m,p-Xylene	100	104	104	82-128
95-47-6	o-Xylene	50	49.5	99	82-126

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2104-BS	H056355.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	80-121%
2037-26-5	Toluene-D8	92%	71-130%
460-00-4	4-Bromofluorobenzene	93%	59-148%
17060-07-0	1,2-Dichloroethane-D4	104%	77-123%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG2231-BS	G0059244.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	250	225	90	61-144
107-02-8	Acrolein	250	140	56	27-156
107-13-1	Acrylonitrile	250	268	107	55-144
71-43-2	Benzene	50	51.8	104	78-130
108-86-1	Bromobenzene	50	49.3	99	78-123
74-97-5	Bromochloromethane	50	47.0	94	72-122
75-27-4	Bromodichloromethane	50	46.9	94	73-122
75-25-2	Bromoform	50	48.6	97	70-139
104-51-8	n-Butylbenzene	50	48.4	97	80-138
135-98-8	sec-Butylbenzene	50	49.1	98	82-132
98-06-6	tert-Butylbenzene	50	47.6	95	79-130
108-90-7	Chlorobenzene	50	50.0	100	83-122
75-00-3	Chloroethane	50	50.7	101	61-153
67-66-3	Chloroform	50	51.6	103	79-129
95-49-8	o-Chlorotoluene	50	48.4	97	77-123
106-43-4	p-Chlorotoluene	50	47.8	96	78-129
110-75-8	2-Chloroethyl vinyl ether	250	243	97	52-142
75-15-0	Carbon disulfide	50	48.2	96	61-142
56-23-5	Carbon tetrachloride	50	54.2	108	79-135
75-34-3	1,1-Dichloroethane	50	51.5	103	77-132
75-35-4	1,1-Dichloroethylene	50	48.9	98	66-132
563-58-6	1,1-Dichloropropene	50	52.2	104	81-133
96-12-8	1,2-Dibromo-3-chloropropane	50	43.4	87	67-129
106-93-4	1,2-Dibromoethane	50	47.4	95	77-126
107-06-2	1,2-Dichloroethane	50	47.5	95	78-129
78-87-5	1,2-Dichloropropane	50	47.6	95	74-127
142-28-9	1,3-Dichloropropane	50	46.1	92	78-118
594-20-7	2,2-Dichloropropane	50	51.4	103	80-137
124-48-1	Dibromochloromethane	50	47.3	95	78-117
75-71-8	Dichlorodifluoromethane	50	41.6	83	35-162
156-59-2	cis-1,2-Dichloroethylene	50	49.5	99	74-123
10061-01-5	cis-1,3-Dichloropropene	50	49.7	99	79-130
541-73-1	m-Dichlorobenzene	50	48.2	96	82-126
95-50-1	o-Dichlorobenzene	50	47.3	95	83-123
106-46-7	p-Dichlorobenzene	50	48.0	96	84-124
156-60-5	trans-1,2-Dichloroethylene	50	50.9	102	77-129

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG2231-BS	G0059244.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	51.7	103	87-131
100-41-4	Ethylbenzene	50	50.0	100	82-124
591-78-6	2-Hexanone	250	204	82	67-130
87-68-3	Hexachlorobutadiene	50	51.5	103	77-150
110-54-3	Hexane	50	57.3	115	65-147
98-82-8	Isopropylbenzene	50	55.4	111	82-133
99-87-6	p-Isopropyltoluene	50	49.7	99	82-132
108-10-1	4-Methyl-2-pentanone	250	220	88	69-125
74-83-9	Methyl bromide	50	41.9	84	60-146
74-87-3	Methyl chloride	50	48.7	97	58-163
74-95-3	Methylene bromide	50	50.0	100	75-128
75-09-2	Methylene chloride	50	46.0	92	62-140
78-93-3	Methyl ethyl ketone	250	209	84	66-134
1634-04-4	Methyl Tert Butyl Ether	50	43.1	86	70-131
91-20-3	Naphthalene	50	44.0	88	59-143
103-65-1	n-Propylbenzene	50	49.0	98	78-129
100-42-5	Styrene	50	50.5	101	79-123
630-20-6	1,1,1,2-Tetrachloroethane	50	49.1	98	81-121
71-55-6	1,1,1-Trichloroethane	50	50.5	101	80-133
79-34-5	1,1,2,2-Tetrachloroethane	50	45.5	91	70-128
79-00-5	1,1,2-Trichloroethane	50	44.4	89	76-118
87-61-6	1,2,3-Trichlorobenzene	50	47.4	95	78-136
96-18-4	1,2,3-Trichloropropane	50	41.3	83	74-125
120-82-1	1,2,4-Trichlorobenzene	50	47.9	96	82-137
95-63-6	1,2,4-Trimethylbenzene	50	47.6	95	77-129
108-67-8	1,3,5-Trimethylbenzene	50	48.8	98	79-129
127-18-4	Tetrachloroethylene	50	50.6	101	79-132
108-88-3	Toluene	50	48.8	98	80-123
79-01-6	Trichloroethylene	50	50.3	101	78-132
75-69-4	Trichlorofluoromethane	50	52.0	104	67-149
75-01-4	Vinyl chloride	50	50.1	100	60-145
108-05-4	Vinyl Acetate	250	360	144	25-164
	m,p-Xylene	100	99.8	100	82-128
95-47-6	o-Xylene	50	49.2	98	82-126

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG2231-BS	G0059244.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	80-121%
2037-26-5	Toluene-D8	95%	71-130%
460-00-4	4-Bromofluorobenzene	101%	59-148%
17060-07-0	1,2-Dichloroethane-D4	99%	77-123%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2111-BS	H056509.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	250	207	83	61-144
107-02-8	Acrolein	250	96.2	38	27-156
107-13-1	Acrylonitrile	250	271	108	55-144
71-43-2	Benzene	50	60.7	121	78-130
108-86-1	Bromobenzene	50	54.8	110	78-123
74-97-5	Bromochloromethane	50	49.7	99	72-122
75-27-4	Bromodichloromethane	50	54.8	110	73-122
75-25-2	Bromoform	50	43.3	87	70-139
104-51-8	n-Butylbenzene	50	64.5	129	80-138
135-98-8	sec-Butylbenzene	50	61.1	122	82-132
98-06-6	tert-Butylbenzene	50	59.1	118	79-130
108-90-7	Chlorobenzene	50	58.9	118	83-122
75-00-3	Chloroethane	50	60.2	120	61-153
67-66-3	Chloroform	50	56.9	114	79-129
95-49-8	o-Chlorotoluene	50	57.5	115	77-123
106-43-4	p-Chlorotoluene	50	58.2	116	78-129
110-75-8	2-Chloroethyl vinyl ether	250	290	116	52-142
75-15-0	Carbon disulfide	50	54.5	109	61-142
56-23-5	Carbon tetrachloride	50	59.7	119	79-135
75-34-3	1,1-Dichloroethane	50	58.0	116	77-132
75-35-4	1,1-Dichloroethylene	50	56.9	114	66-132
563-58-6	1,1-Dichloropropene	50	61.2	122	81-133
96-12-8	1,2-Dibromo-3-chloropropane	50	51.7	103	67-129
106-93-4	1,2-Dibromoethane	50	44.5	89	77-126
107-06-2	1,2-Dichloroethane	50	53.5	107	78-129
78-87-5	1,2-Dichloropropane	50	54.7	109	74-127
142-28-9	1,3-Dichloropropane	50	44.9	90	78-118
594-20-7	2,2-Dichloropropane	50	61.4	123	80-137
124-48-1	Dibromochloromethane	50	43.9	88	78-117
75-71-8	Dichlorodifluoromethane	50	50.5	101	35-162
156-59-2	cis-1,2-Dichloroethylene	50	55.1	110	74-123
10061-01-5	cis-1,3-Dichloropropene	50	61.3	123	79-130
541-73-1	m-Dichlorobenzene	50	59.7	119	82-126
95-50-1	o-Dichlorobenzene	50	58.8	118	83-123
106-46-7	p-Dichlorobenzene	50	59.1	118	84-124
156-60-5	trans-1,2-Dichloroethylene	50	57.5	115	77-129

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2111-BS	H056509.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	50	55.7	111	87-131
100-41-4	Ethylbenzene	50	59.7	119	82-124
591-78-6	2-Hexanone	250	229	92	67-130
87-68-3	Hexachlorobutadiene	50	65.3	131	77-150
110-54-3	Hexane	50	63.6	127	65-147
98-82-8	Isopropylbenzene	50	67.8	136*	82-133
99-87-6	p-Isopropyltoluene	50	63.2	126	82-132
108-10-1	4-Methyl-2-pentanone	250	245	98	69-125
74-83-9	Methyl bromide	50	52.4	105	60-146
74-87-3	Methyl chloride	50	49.6	99	58-163
74-95-3	Methylene bromide	50	57.1	114	75-128
75-09-2	Methylene chloride	50	55.8	112	62-140
78-93-3	Methyl ethyl ketone	250	230	92	66-134
1634-04-4	Methyl Tert Butyl Ether	50	53.0	106	70-131
91-20-3	Naphthalene	50	53.1	106	59-143
103-65-1	n-Propylbenzene	50	58.7	117	78-129
100-42-5	Styrene	50	53.5	107	79-123
630-20-6	1,1,1,2-Tetrachloroethane	50	50.3	101	81-121
71-55-6	1,1,1-Trichloroethane	50	60.1	120	80-133
79-34-5	1,1,2,2-Tetrachloroethane	50	52.3	105	70-128
79-00-5	1,1,2-Trichloroethane	50	49.5	99	76-118
87-61-6	1,2,3-Trichlorobenzene	50	58.9	118	78-136
96-18-4	1,2,3-Trichloropropane	50	48.2	96	74-125
120-82-1	1,2,4-Trichlorobenzene	50	56.7	113	82-137
95-63-6	1,2,4-Trimethylbenzene	50	57.7	115	77-129
108-67-8	1,3,5-Trimethylbenzene	50	57.9	116	79-129
127-18-4	Tetrachloroethylene	50	56.7	113	79-132
108-88-3	Toluene	50	54.2	108	80-123
79-01-6	Trichloroethylene	50	58.3	117	78-132
75-69-4	Trichlorofluoromethane	50	63.1	126	67-149
75-01-4	Vinyl chloride	50	55.7	111	60-145
108-05-4	Vinyl Acetate	250	331	132	25-164
	m,p-Xylene	100	120	120	82-128
95-47-6	o-Xylene	50	58.3	117	82-126

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VH2111-BS	H056509.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	80-121%
2037-26-5	Toluene-D8	85%	71-130%
460-00-4	4-Bromofluorobenzene	95%	59-148%
17060-07-0	1,2-Dichloroethane-D4	105%	77-123%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66564-4MS	H056358.D	1	07/14/09	MM	n/a	n/a	VH2104
F66564-4MSD	H056359.D	1	07/14/09	MM	n/a	n/a	VH2104
F66564-4	H056357.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	F66564-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		448	292	65	276	63	6	61-144/29
107-02-8	Acrolein	ND		448	178	40	190	43	7	27-156/39
107-13-1	Acrylonitrile	ND		448	426	95	406	92	5	55-144/24
71-43-2	Benzene	ND		89.6	106	118	101	115	5	78-130/25
108-86-1	Bromobenzene	ND		89.6	88.1	98	88.3	100	0	78-123/30
74-97-5	Bromochloromethane	ND		89.6	79.0	88	78.3	89	1	72-122/23
75-27-4	Bromodichloromethane	ND		89.6	83.2	93	81.4	92	2	73-122/25
75-25-2	Bromoform	ND		89.6	65.1	73	66.4	75	2	70-139/26
104-51-8	n-Butylbenzene	ND		89.6	107	119	106	120	1	80-138/31
135-98-8	sec-Butylbenzene	ND		89.6	104	116	103	117	1	82-132/29
98-06-6	tert-Butylbenzene	ND		89.6	102	114	101	115	1	79-130/29
108-90-7	Chlorobenzene	ND		89.6	95.2	106	93.5	106	2	83-122/23
75-00-3	Chloroethane	ND		89.6	120	134	113	128	6	61-153/31
67-66-3	Chloroform	ND		89.6	100	112	97.9	111	2	79-129/27
95-49-8	o-Chlorotoluene	ND		89.6	96.4	108	96.3	109	0	77-123/31
106-43-4	p-Chlorotoluene	ND		89.6	98.9	110	96.1	109	3	78-129/29
110-75-8	2-Chloroethyl vinyl ether	ND		448	387	86	320	73	19	52-142/25
75-15-0	Carbon disulfide	ND		89.6	107	119	103	117	4	61-142/27
56-23-5	Carbon tetrachloride	ND		89.6	112	125	107	122	5	79-135/29
75-34-3	1,1-Dichloroethane	ND		89.6	102	114	99.5	113	2	77-132/26
75-35-4	1,1-Dichloroethylene	ND		89.6	111	124	108	123	3	66-132/27
563-58-6	1,1-Dichloropropene	ND		89.6	108	121	106	120	2	81-133/26
96-12-8	1,2-Dibromo-3-chloropropane	ND		89.6	70.8	79	70.8	80	0	67-129/29
106-93-4	1,2-Dibromoethane	ND		89.6	67.0	75*	64.9	74*	3	77-126/24
107-06-2	1,2-Dichloroethane	ND		89.6	77.2	86	76.4	87	1	78-129/24
78-87-5	1,2-Dichloropropane	ND		89.6	90.3	101	89.0	101	1	74-127/27
142-28-9	1,3-Dichloropropane	ND		89.6	75.4	84	75.9	86	1	78-118/26
594-20-7	2,2-Dichloropropane	ND		89.6	108	121	98.7	112	9	80-137/28
124-48-1	Dibromochloromethane	ND		89.6	69.0	77*	67.3	76*	2	78-117/27
75-71-8	Dichlorodifluoromethane	ND		89.6	93.7	105	84.9	96	10	35-162/30
156-59-2	cis-1,2-Dichloroethylene	ND		89.6	94.1	105	91.2	104	3	74-123/26
10061-01-5	cis-1,3-Dichloropropene	ND		89.6	89.5	100	74.1	84	19	79-130/23
541-73-1	m-Dichlorobenzene	ND		89.6	98.6	110	95.6	109	3	82-126/29
95-50-1	o-Dichlorobenzene	ND		89.6	96.0	107	93.3	106	3	83-123/28
106-46-7	p-Dichlorobenzene	ND		89.6	97.0	108	92.4	105	5	84-124/28
156-60-5	trans-1,2-Dichloroethylene	ND		89.6	108	121	102	116	6	77-129/27

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66564-4MS	H056358.D	1	07/14/09	MM	n/a	n/a	VH2104
F66564-4MSD	H056359.D	1	07/14/09	MM	n/a	n/a	VH2104
F66564-4	H056357.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	F66564-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		89.6	89.6	100	86.2	98	4	87-131/27
100-41-4	Ethylbenzene	ND		89.6	103	115	102	116	1	82-124/25
591-78-6	2-Hexanone	ND		448	319	71	310	70	3	67-130/29
87-68-3	Hexachlorobutadiene	ND		89.6	121	135	120	136	1	77-150/36
110-54-3	Hexane	ND		89.6	111	124	110	125	1	65-147/27
98-82-8	Isopropylbenzene	ND		89.6	114	127	113	128	1	82-133/27
99-87-6	p-Isopropyltoluene	ND		89.6	106	118	105	119	1	82-132/29
108-10-1	4-Methyl-2-pentanone	ND		448	367	82	362	82	1	69-125/24
74-83-9	Methyl bromide	ND		89.6	104	116	99.0	112	5	60-146/31
74-87-3	Methyl chloride	ND		89.6	98.2	110	93.7	106	5	58-163/26
74-95-3	Methylene bromide	ND		89.6	77.7	87	78.0	89	0	75-128/26
75-09-2	Methylene chloride	ND		89.6	98.9	110	103	117	4	62-140/25
78-93-3	Methyl ethyl ketone	ND		448	307	69	297	67	3	66-134/23
1634-04-4	Methyl Tert Butyl Ether	ND		89.6	78.2	87	79.3	90	1	70-131/25
91-20-3	Naphthalene	ND		89.6	80.5	90	79.7	91	1	59-143/31
103-65-1	n-Propylbenzene	ND		89.6	99.2	111	99.3	113	0	78-129/29
100-42-5	Styrene	ND		89.6	86.8	97	87.6	100	1	79-123/28
630-20-6	1,1,1,2-Tetrachloroethane	ND		89.6	90.6	101	89.2	101	2	81-121/25
71-55-6	1,1,1-Trichloroethane	ND		89.6	108	121	104	118	4	80-133/27
79-34-5	1,1,2,2-Tetrachloroethane	ND		89.6	74.7	83	73.0	83	2	70-128/30
79-00-5	1,1,2-Trichloroethane	ND		89.6	77.0	86	74.3	84	4	76-118/28
87-61-6	1,2,3-Trichlorobenzene	ND		89.6	119	133	115	131	3	78-136/34
96-18-4	1,2,3-Trichloropropane	ND		89.6	68.2	76	68.5	78	0	74-125/30
120-82-1	1,2,4-Trichlorobenzene	ND		89.6	97.5	109	94.7	108	3	82-137/32
95-63-6	1,2,4-Trimethylbenzene	ND		89.6	98.0	109	97.6	111	0	77-129/29
108-67-8	1,3,5-Trimethylbenzene	ND		89.6	97.0	108	98.7	112	2	79-129/31
127-18-4	Tetrachloroethylene	ND		89.6	104	116	101	115	3	79-132/27
108-88-3	Toluene	ND		89.6	103	115	88.2	100	15	80-123/26
79-01-6	Trichloroethylene	ND		89.6	101	113	97.3	111	4	78-132/28
75-69-4	Trichlorofluoromethane	ND		89.6	123	137	120	136	2	67-149/29
75-01-4	Vinyl chloride	ND		89.6	112	125	110	125	2	60-145/29
108-05-4	Vinyl Acetate	ND		448	522	117	535	122	2	25-164/35
	m,p-Xylene	ND		179	201	112	199	113	1	82-128/25
95-47-6	o-Xylene	ND		89.6	95.7	107	94.4	107	1	82-126/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66564-4MS	H056358.D	1	07/14/09	MM	n/a	n/a	VH2104
F66564-4MSD	H056359.D	1	07/14/09	MM	n/a	n/a	VH2104
F66564-4	H056357.D	1	07/14/09	MM	n/a	n/a	VH2104

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

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Surrogate Recoveries	MS	MSD	F66564-4	Limits
1868-53-7	Dibromofluoromethane	101%	101%	108%	80-121%
2037-26-5	Toluene-D8	113%	98%	92%	71-130%
460-00-4	4-Bromofluorobenzene	97%	96%	109%	59-148%
17060-07-0	1,2-Dichloroethane-D4	96%	92%	110%	77-123%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66885-1MS	G0059255.D	1	07/27/09	MM	n/a	n/a	VG2231
F66885-1MSD	G0059256.D	1	07/27/09	MM	n/a	n/a	VG2231
F66885-1 [a]	G0059254.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Compound	F66885-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	290 U		1590	890	56*	786	51*	12	61-144/29
107-02-8	Acrolein	140 U		1590	159	10*	146	9*	9	27-156/39
107-13-1	Acrylonitrile	140 U		1590	1110	70	1090	70	2	55-144/24
71-43-2	Benzene	29 U		318	356	112	341	110	4	78-130/25
108-86-1	Bromobenzene	29 U		318	413	130*	401	129*	3	78-123/30
74-97-5	Bromochloromethane	29 U		318	272	85	267	86	2	72-122/23
75-27-4	Bromodichloromethane	29 U		318	292	92	285	92	2	73-122/25
75-25-2	Bromoform	29 U		318	230	72	227	73	1	70-139/26
104-51-8	n-Butylbenzene	29 U		318	299	94	290	93	3	80-138/31
135-98-8	sec-Butylbenzene	29 U		318	377	118	366	118	3	82-132/29
98-06-6	tert-Butylbenzene	29 U		318	418	131*	393	126	6	79-130/29
108-90-7	Chlorobenzene	29 U		318	339	107	336	108	1	83-122/23
75-00-3	Chloroethane	29 U		318	347	109	331	107	5	61-153/31
67-66-3	Chloroform	29 U		318	353	111	342	110	3	79-129/27
95-49-8	o-Chlorotoluene	29 U		318	431	135*	414	133*	4	77-123/31
106-43-4	p-Chlorotoluene	29 U		318	420	132*	406	131*	3	78-129/29
110-75-8	2-Chloroethyl vinyl ether	140 U		1590	919	58	877	56	5	52-142/25
75-15-0	Carbon disulfide	29 U		318	322	101	299	96	7	61-142/27
56-23-5	Carbon tetrachloride	29 U		318	367	115	349	112	5	79-135/29
75-34-3	1,1-Dichloroethane	29 U		318	350	110	340	109	3	77-132/26
75-35-4	1,1-Dichloroethylene	29 U		318	354	111	334	107	6	66-132/27
563-58-6	1,1-Dichloropropene	29 U		318	357	112	340	109	5	81-133/26
96-12-8	1,2-Dibromo-3-chloropropane	29 U		318	249	78	231	74	8	67-129/29
106-93-4	1,2-Dibromoethane	29 U		318	269	85	257	83	5	77-126/24
107-06-2	1,2-Dichloroethane	29 U		318	278	87	268	86	4	78-129/24
78-87-5	1,2-Dichloropropane	29 U		318	305	96	301	97	1	74-127/27
142-28-9	1,3-Dichloropropane	29 U		318	279	88	267	86	4	78-118/26
594-20-7	2,2-Dichloropropane	29 U		318	314	99	293	94	7	80-137/28
124-48-1	Dibromochloromethane	29 U		318	284	89	274	88	4	78-117/27
75-71-8	Dichlorodifluoromethane	29 U		318	274	86	266	86	3	35-162/30
156-59-2	cis-1,2-Dichloroethylene	29 U		318	319	100	319	103	0	74-123/26
10061-01-5	cis-1,3-Dichloropropene	29 U		318	280	88	274	88	2	79-130/23
541-73-1	m-Dichlorobenzene	29.3		318	379	110	371	110	2	82-126/29
95-50-1	o-Dichlorobenzene	29 U		318	300	94	301	97	0	83-123/28
106-46-7	p-Dichlorobenzene	64.1		318	414	110	391	105	6	84-124/28
156-60-5	trans-1,2-Dichloroethylene	29 U		318	353	111	345	111	2	77-129/27

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66885-1MS	G0059255.D	1	07/27/09	MM	n/a	n/a	VG2231
F66885-1MSD	G0059256.D	1	07/27/09	MM	n/a	n/a	VG2231
F66885-1 [a]	G0059254.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Compound	F66885-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	29 U		318	315	99	298	96	6	87-131/27
100-41-4	Ethylbenzene	29 U		318	368	116	354	114	4	82-124/25
591-78-6	2-Hexanone	140 U		1590	870	55*	866	56*	0	67-130/29
87-68-3	Hexachlorobutadiene	29 U		318	170	53*	169	54*	1	77-150/36
110-54-3	Hexane	29 U		318	254	80	256	82	1	65-147/27
98-82-8	Isopropylbenzene	29 U		318	366	115	366	118	0	82-133/27
99-87-6	p-Isopropyltoluene	29 U		318	368	116	361	116	2	82-132/29
108-10-1	4-Methyl-2-pentanone	140 U		1590	1110	70	1070	69	4	69-125/24
74-83-9	Methyl bromide	29 U		318	351	110	333	107	5	60-146/31
74-87-3	Methyl chloride	29 U		318	324	102	310	100	4	58-163/26
74-95-3	Methylene bromide	29 U		318	262	82	256	82	2	75-128/26
75-09-2	Methylene chloride	57 U		318	304	96	297	96	2	62-140/25
78-93-3	Methyl ethyl ketone	140 U		1590	750	47*	704	45*	6	66-134/23
1634-04-4	Methyl Tert Butyl Ether	29 U		318	239	75	225	72	6	70-131/25
91-20-3	Naphthalene	29 U		318	149	47*	161	52*	8	59-143/31
103-65-1	n-Propylbenzene	29 U		318	447	140*	425	137*	5	78-129/29
100-42-5	Styrene	29 U		318	300	94	298	96	1	79-123/28
630-20-6	1,1,1,2-Tetrachloroethane	29 U		318	333	105	322	104	3	81-121/25
71-55-6	1,1,1-Trichloroethane	29 U		318	363	114	348	112	4	80-133/27
79-34-5	1,1,2,2-Tetrachloroethane	29 U		318	329	103	307	99	7	70-128/30
79-00-5	1,1,2-Trichloroethane	29 U		318	275	86	268	86	3	76-118/28
87-61-6	1,2,3-Trichlorobenzene	29 U		318	138	43*	148	48*	7	78-136/34
96-18-4	1,2,3-Trichloropropane	29 U		318	314	99	284	91	10	74-125/30
120-82-1	1,2,4-Trichlorobenzene	15.9	I	318	184	53*	195	58*	6	82-137/32
95-63-6	1,2,4-Trimethylbenzene	29 U		318	413	130*	403	130*	2	77-129/29
108-67-8	1,3,5-Trimethylbenzene	29 U		318	434	136*	421	135*	3	79-129/31
127-18-4	Tetrachloroethylene	29 U		318	460	145*	450	145*	2	79-132/27
108-88-3	Toluene	29 U		318	376	118	365	117	3	80-123/26
79-01-6	Trichloroethylene	29 U		318	363	114	346	111	5	78-132/28
75-69-4	Trichlorofluoromethane	29 U		318	388	122	363	117	7	67-149/29
75-01-4	Vinyl chloride	29 U		318	346	109	333	107	4	60-145/29
108-05-4	Vinyl Acetate	140 U		1590	83.0	5*	ND	0*	200*	25-164/35
	m,p-Xylene	57 U		637	709	111	700	113	1	82-128/25
95-47-6	o-Xylene	29 U		318	339	107	332	107	2	82-126/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66885-1MS	G0059255.D	1	07/27/09	MM	n/a	n/a	VG2231
F66885-1MSD	G0059256.D	1	07/27/09	MM	n/a	n/a	VG2231
F66885-1 [a]	G0059254.D	1	07/27/09	MM	n/a	n/a	VG2231

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

F66564-10

CAS No.	Surrogate Recoveries	MS	MSD	F66885-1	Limits
1868-53-7	Dibromofluoromethane	97%	98%	99%	80-121%
2037-26-5	Toluene-D8	108%	106%	109%	71-130%
460-00-4	4-Bromofluorobenzene	123%	119%	131%	59-148%
17060-07-0	1,2-Dichloroethane-D4	83%	81%	93%	77-123%

(a) Confirmation run.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66885-7MS	H056518.D	1	07/28/09	MM	n/a	n/a	VH2111
F66885-7MSD	H056519.D	1	07/28/09	MM	n/a	n/a	VH2111
F66885-7	H056517.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Compound	F66885-7 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	58 U		319	152	48*	183	57*	19	61-144/29
107-02-8	Acrolein	29 U		319	83.5	26*	71.8	22*	15	27-156/39
107-13-1	Acrylonitrile	29 U		319	228	72	243	75	6	55-144/24
71-43-2	Benzene	5.8 U		63.7	78.9	124	76.2	118	3	78-130/25
108-86-1	Bromobenzene	5.8 U		63.7	72.9	114	66.7	103	9	78-123/30
74-97-5	Bromochloromethane	5.8 U		63.7	61.3	96	59.6	92	3	72-122/23
75-27-4	Bromodichloromethane	5.8 U		63.7	64.5	101	61.0	95	6	73-122/25
75-25-2	Bromoform	5.8 U		63.7	43.8	69*	44.2	69*	1	70-139/26
104-51-8	n-Butylbenzene	5.8 U		63.7	76.3	120	64.2	100	17	80-138/31
135-98-8	sec-Butylbenzene	5.8 U		63.7	80.2	126	67.2	104	18	82-132/29
98-06-6	tert-Butylbenzene	5.8 U		63.7	78.5	123	68.6	106	13	79-130/29
108-90-7	Chlorobenzene	5.8 U		63.7	74.6	117	70.7	110	5	83-122/23
75-00-3	Chloroethane	5.8 U		63.7	90.9	143	81.7	127	11	61-153/31
67-66-3	Chloroform	5.8 U		63.7	74.9	117	73.2	113	2	79-129/27
95-49-8	o-Chlorotoluene	5.8 U		63.7	77.4	121	65.7	102	16	77-123/31
106-43-4	p-Chlorotoluene	5.8 U		63.7	76.3	120	66.5	103	14	78-129/29
110-75-8	2-Chloroethyl vinyl ether	29 U		319	267	84	233	72	14	52-142/25
75-15-0	Carbon disulfide	5.8 U		63.7	74.8	117	71.7	111	4	61-142/27
56-23-5	Carbon tetrachloride	5.8 U		63.7	79.8	125	76.2	118	5	79-135/29
75-34-3	1,1-Dichloroethane	5.8 U		63.7	76.0	119	73.5	114	3	77-132/26
75-35-4	1,1-Dichloroethylene	5.8 U		63.7	77.7	122	72.5	112	7	66-132/27
563-58-6	1,1-Dichloropropene	5.8 U		63.7	80.3	126	72.9	113	10	81-133/26
96-12-8	1,2-Dibromo-3-chloropropane	5.8 U		63.7	49.0	77	49.9	77	2	67-129/29
106-93-4	1,2-Dibromoethane	5.8 U		63.7	46.5	73*	47.6	74*	2	77-126/24
107-06-2	1,2-Dichloroethane	5.8 U		63.7	59.8	94	58.6	91	2	78-129/24
78-87-5	1,2-Dichloropropane	5.8 U		63.7	66.8	105	65.7	102	2	74-127/27
142-28-9	1,3-Dichloropropane	5.8 U		63.7	48.8	77*	48.8	76*	0	78-118/26
594-20-7	2,2-Dichloropropane	5.8 U		63.7	73.4	115	69.6	108	5	80-137/28
124-48-1	Dibromochloromethane	5.8 U		63.7	48.2	76*	48.6	75*	1	78-117/27
75-71-8	Dichlorodifluoromethane	5.8 U		63.7	52.5	82	60.9	94	15	35-162/30
156-59-2	cis-1,2-Dichloroethylene	5.8 U		63.7	71.8	113	68.7	107	4	74-123/26
10061-01-5	cis-1,3-Dichloropropene	5.8 U		63.7	65.2	102	58.3	90	11	79-130/23
541-73-1	m-Dichlorobenzene	5.8 U		63.7	77.6	122	66.2	103	16	82-126/29
95-50-1	o-Dichlorobenzene	5.8 U		63.7	73.1	115	65.7	102	11	83-123/28
106-46-7	p-Dichlorobenzene	5.8 U		63.7	78.5	123	67.2	104	16	84-124/28
156-60-5	trans-1,2-Dichloroethylene	5.8 U		63.7	79.0	124	76.0	118	4	77-129/27

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66885-7MS	H056518.D	1	07/28/09	MM	n/a	n/a	VH2111
F66885-7MSD	H056519.D	1	07/28/09	MM	n/a	n/a	VH2111
F66885-7	H056517.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Compound	F66885-7 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	5.8 U		63.7	62.3	98	60.3	93	3	87-131/27
100-41-4	Ethylbenzene	5.8 U		63.7	77.6	122	71.9	111	8	82-124/25
591-78-6	2-Hexanone	29 U		319	182	57*	195	60*	7	67-130/29
87-68-3	Hexachlorobutadiene	5.8 U		63.7	79.0	124	63.9	99	21	77-150/36
110-54-3	Hexane	5.8 U		63.7	72.3	113	67.6	105	7	65-147/27
98-82-8	Isopropylbenzene	5.8 U		63.7	86.9	136*	79.4	123	9	82-133/27
99-87-6	p-Isopropyltoluene	5.8 U		63.7	81.8	128	69.4	108	16	82-132/29
108-10-1	4-Methyl-2-pentanone	29 U		319	247	77	231	72	7	69-125/24
74-83-9	Methyl bromide	5.8 U		63.7	82.1	129	76.9	119	7	60-146/31
74-87-3	Methyl chloride	5.8 U		63.7	70.5	111	69.4	108	2	58-163/26
74-95-3	Methylene bromide	5.8 U		63.7	56.7	89	57.9	90	2	75-128/26
75-09-2	Methylene chloride	12 U		63.7	75.9	119	73.8	114	3	62-140/25
78-93-3	Methyl ethyl ketone	29 U		319	175	55*	196	61*	11	66-134/23
1634-04-4	Methyl Tert Butyl Ether	5.8 U		63.7	56.8	89	60.2	93	6	70-131/25
91-20-3	Naphthalene	5.8 U		63.7	45.2	71	43.6	68	4	59-143/31
103-65-1	n-Propylbenzene	5.8 U		63.7	78.9	124	67.2	104	16	78-129/29
100-42-5	Styrene	5.8 U		63.7	62.1	97	61.1	95	2	79-123/28
630-20-6	1,1,1,2-Tetrachloroethane	5.8 U		63.7	63.8	100	58.4	91	9	81-121/25
71-55-6	1,1,1-Trichloroethane	5.8 U		63.7	79.2	124	73.2	113	8	80-133/27
79-34-5	1,1,2,2-Tetrachloroethane	5.8 U		63.7	55.4	87	53.9	84	3	70-128/30
79-00-5	1,1,2-Trichloroethane	5.8 U		63.7	53.8	84	56.1	87	4	76-118/28
87-61-6	1,2,3-Trichlorobenzene	5.8 U		63.7	57.3	90	52.5	81	9	78-136/34
96-18-4	1,2,3-Trichloropropane	5.8 U		63.7	49.7	78	44.9	70*	10	74-125/30
120-82-1	1,2,4-Trichlorobenzene	5.8 U		63.7	58.1	91	55.1	85	5	82-137/32
95-63-6	1,2,4-Trimethylbenzene	5.8 U		63.7	77.0	121	68.4	106	12	77-129/29
108-67-8	1,3,5-Trimethylbenzene	5.8 U		63.7	80.6	126	68.5	106	16	79-129/31
127-18-4	Tetrachloroethylene	5.8 U		63.7	87.0	136*	81.4	126	7	79-132/27
108-88-3	Toluene	5.8 U		63.7	81.4	128*	68.1	106	18	80-123/26
79-01-6	Trichloroethylene	5.8 U		63.7	75.6	119	72.5	112	4	78-132/28
75-69-4	Trichlorofluoromethane	5.8 U		63.7	88.3	139	85.0	132	4	67-149/29
75-01-4	Vinyl chloride	5.8 U		63.7	81.7	128	73.8	114	10	60-145/29
108-05-4	Vinyl Acetate	29 U		319	98.7	31	69.2	21*	35	25-164/35
	m,p-Xylene	12 U		127	156	122	146	113	7	82-128/25
95-47-6	o-Xylene	5.8 U		63.7	74.3	117	71.2	110	4	82-126/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66885-7MS	H056518.D	1	07/28/09	MM	n/a	n/a	VH2111
F66885-7MSD	H056519.D	1	07/28/09	MM	n/a	n/a	VH2111
F66885-7	H056517.D	1	07/28/09	MM	n/a	n/a	VH2111

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

F66564-11, F66564-12

CAS No.	Surrogate Recoveries	MS	MSD	F66885-7	Limits
1868-53-7	Dibromofluoromethane	99%	102%	101%	80-121%
2037-26-5	Toluene-D8	107%	88%	83%	71-130%
460-00-4	4-Bromofluorobenzene	98%	94%	108%	59-148%
17060-07-0	1,2-Dichloroethane-D4	91%	95%	95%	77-123%

GC/MS Semi-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: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MB	U013426.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	830	330	ug/kg	
95-57-8	2-Chlorophenol	ND	170	33	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	33	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	33	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	33	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	830	330	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	330	110	ug/kg	
95-48-7	2-Methylphenol	ND	170	33	ug/kg	
	3&4-Methylphenol	ND	170	33	ug/kg	
88-75-5	2-Nitrophenol	ND	170	33	ug/kg	
100-02-7	4-Nitrophenol	ND	830	330	ug/kg	
87-86-5	Pentachlorophenol	ND	830	330	ug/kg	
108-95-2	Phenol	ND	170	33	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	33	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	33	ug/kg	
83-32-9	Acenaphthene	ND	170	33	ug/kg	
208-96-8	Acenaphthylene	ND	170	33	ug/kg	
120-12-7	Anthracene	ND	170	33	ug/kg	
92-87-5	Benzidine	ND	1700	830	ug/kg	
56-55-3	Benzo(a)anthracene	ND	170	33	ug/kg	
50-32-8	Benzo(a)pyrene	ND	170	33	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	170	33	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	170	33	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	170	33	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	170	33	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	330	67	ug/kg	
100-51-6	Benzyl Alcohol	ND	170	33	ug/kg	
91-58-7	2-Chloronaphthalene	ND	170	33	ug/kg	
106-47-8	4-Chloroaniline	ND	170	67	ug/kg	
218-01-9	Chrysene	ND	170	33	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	170	33	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	170	33	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	170	33	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	170	33	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	43	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	43	ug/kg	

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MB	U013426.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	170	40	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	170	33	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	170	33	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	330	67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	170	33	ug/kg	
132-64-9	Dibenzofuran	ND	170	33	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	330	67	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	330	67	ug/kg	
84-66-2	Diethyl phthalate	ND	330	170	ug/kg	
131-11-3	Dimethyl phthalate	ND	330	67	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	330	170	ug/kg	
206-44-0	Fluoranthene	ND	170	33	ug/kg	
86-73-7	Fluorene	ND	170	33	ug/kg	
118-74-1	Hexachlorobenzene	ND	170	33	ug/kg	
87-68-3	Hexachlorobutadiene	ND	170	33	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	170	33	ug/kg	
67-72-1	Hexachloroethane	ND	170	40	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	170	33	ug/kg	
78-59-1	Isophorone	ND	170	33	ug/kg	
91-57-6	2-Methylnaphthalene	ND	170	33	ug/kg	
88-74-4	2-Nitroaniline	ND	330	67	ug/kg	
99-09-2	3-Nitroaniline	ND	330	67	ug/kg	
100-01-6	4-Nitroaniline	ND	330	67	ug/kg	
91-20-3	Naphthalene	ND	170	33	ug/kg	
98-95-3	Nitrobenzene	ND	170	33	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	170	33	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	67	ug/kg	
85-01-8	Phenanthrene	ND	170	33	ug/kg	
129-00-0	Pyrene	ND	170	33	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	170	33	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	69%	40-102%
4165-62-2	Phenol-d5	72%	41-100%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MB	U013426.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	70%	42-108%
4165-60-0	Nitrobenzene-d5	67%	40-105%
321-60-8	2-Fluorobiphenyl	68%	43-107%
1718-51-0	Terphenyl-d14	72%	45-119%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MB	X006963.D	1	07/22/09	NAF	07/17/09	OP29637	SX365

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	830	330	ug/kg	
95-57-8	2-Chlorophenol	ND	170	33	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	33	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	33	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	33	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	830	330	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	330	110	ug/kg	
95-48-7	2-Methylphenol	ND	170	33	ug/kg	
	3&4-Methylphenol	ND	170	33	ug/kg	
88-75-5	2-Nitrophenol	ND	170	33	ug/kg	
100-02-7	4-Nitrophenol	ND	830	330	ug/kg	
87-86-5	Pentachlorophenol	ND	830	330	ug/kg	
108-95-2	Phenol	ND	170	33	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	33	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	33	ug/kg	
83-32-9	Acenaphthene	ND	170	33	ug/kg	
208-96-8	Acenaphthylene	ND	170	33	ug/kg	
120-12-7	Anthracene	ND	170	33	ug/kg	
92-87-5	Benzidine	ND	1700	830	ug/kg	
56-55-3	Benzo(a)anthracene	ND	170	33	ug/kg	
50-32-8	Benzo(a)pyrene	ND	170	33	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	170	33	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	170	33	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	170	33	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	170	33	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	330	67	ug/kg	
100-51-6	Benzyl Alcohol	ND	170	33	ug/kg	
91-58-7	2-Chloronaphthalene	ND	170	33	ug/kg	
106-47-8	4-Chloroaniline	ND	170	67	ug/kg	
218-01-9	Chrysene	ND	170	33	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	170	33	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	170	33	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	170	33	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	170	33	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	43	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	43	ug/kg	

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MB	X006963.D	1	07/22/09	NAF	07/17/09	OP29637	SX365

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	170	40	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	170	33	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	170	33	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	330	67	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	170	33	ug/kg	
132-64-9	Dibenzofuran	ND	170	33	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	330	67	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	330	67	ug/kg	
84-66-2	Diethyl phthalate	ND	330	170	ug/kg	
131-11-3	Dimethyl phthalate	ND	330	67	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	330	170	ug/kg	
206-44-0	Fluoranthene	ND	170	33	ug/kg	
86-73-7	Fluorene	ND	170	33	ug/kg	
118-74-1	Hexachlorobenzene	ND	170	33	ug/kg	
87-68-3	Hexachlorobutadiene	ND	170	33	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	170	33	ug/kg	
67-72-1	Hexachloroethane	ND	170	40	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	170	33	ug/kg	
78-59-1	Isophorone	ND	170	33	ug/kg	
91-57-6	2-Methylnaphthalene	ND	170	33	ug/kg	
88-74-4	2-Nitroaniline	ND	330	67	ug/kg	
99-09-2	3-Nitroaniline	ND	330	67	ug/kg	
100-01-6	4-Nitroaniline	ND	330	67	ug/kg	
91-20-3	Naphthalene	ND	170	33	ug/kg	
98-95-3	Nitrobenzene	ND	170	33	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	170	33	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	67	ug/kg	
85-01-8	Phenanthrene	ND	170	33	ug/kg	
129-00-0	Pyrene	ND	170	33	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	170	33	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	72%	40-102%
4165-62-2	Phenol-d5	73%	41-100%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MB	X006963.D	1	07/22/09	NAF	07/17/09	OP29637	SX365

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	69%	42-108%
4165-60-0	Nitrobenzene-d5	70%	40-105%
321-60-8	2-Fluorobiphenyl	70%	43-107%
1718-51-0	Terphenyl-d14	73%	45-119%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-BS	U013425.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
65-85-0	Benzoic acid	3330	2690	81	44-116
95-57-8	2-Chlorophenol	1670	1260	76	54-97
59-50-7	4-Chloro-3-methyl phenol	1670	1460	88	59-102
120-83-2	2,4-Dichlorophenol	1670	1360	82	60-101
105-67-9	2,4-Dimethylphenol	1670	1170	70	49-89
51-28-5	2,4-Dinitrophenol	3330	2160	65	39-107
534-52-1	4,6-Dinitro-o-cresol	3330	2530	76	58-109
95-48-7	2-Methylphenol	1670	1240	74	53-94
	3&4-Methylphenol	3330	2560	77	54-95
88-75-5	2-Nitrophenol	1670	1250	75	55-96
100-02-7	4-Nitrophenol	3330	2820	85	56-106
87-86-5	Pentachlorophenol	3330	3020	91	50-115
108-95-2	Phenol	1670	1280	77	55-99
95-95-4	2,4,5-Trichlorophenol	1670	1320	79	60-101
88-06-2	2,4,6-Trichlorophenol	1670	1310	79	60-100
83-32-9	Acenaphthene	1670	1260	76	59-97
208-96-8	Acenaphthylene	1670	1220	73	58-98
120-12-7	Anthracene	1670	1190	71	61-104
56-55-3	Benzo(a)anthracene	1670	1310	79	60-106
50-32-8	Benzo(a)pyrene	1670	1270	76	59-102
205-99-2	Benzo(b)fluoranthene	1670	1340	80	60-107
191-24-2	Benzo(g,h,i)perylene	1670	1250	75	56-103
207-08-9	Benzo(k)fluoranthene	1670	1340	80	61-107
101-55-3	4-Bromophenyl phenyl ether	1670	1320	79	60-104
85-68-7	Butyl benzyl phthalate	1670	1450	87	57-110
100-51-6	Benzyl Alcohol	1670	1250	75	51-102
91-58-7	2-Chloronaphthalene	1670	1150	69	57-95
106-47-8	4-Chloroaniline	1670	821	49	19-85
218-01-9	Chrysene	1670	1310	79	60-107
111-91-1	bis(2-Chloroethoxy)methane	1670	1270	76	51-89
111-44-4	bis(2-Chloroethyl)ether	1670	1170	70	50-96
108-60-1	bis(2-Chloroisopropyl)ether	1670	1250	75	44-94
7005-72-3	4-Chlorophenyl phenyl ether	1670	1370	82	60-101
95-50-1	1,2-Dichlorobenzene	1670	1030	62	47-91
541-73-1	1,3-Dichlorobenzene	1670	971	58	45-86
106-46-7	1,4-Dichlorobenzene	1670	993	60	45-88

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-BS	U013425.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
121-14-2	2,4-Dinitrotoluene	1670	1300	78	59-103
606-20-2	2,6-Dinitrotoluene	1670	1260	76	57-99
91-94-1	3,3'-Dichlorobenzidine	1670	797	48	34-88
53-70-3	Dibenzo(a,h)anthracene	1670	1280	77	57-105
132-64-9	Dibenzofuran	1670	1210	73	58-103
84-74-2	Di-n-butyl phthalate	1670	1400	84	59-105
117-84-0	Di-n-octyl phthalate	1670	1540	92	59-117
84-66-2	Diethyl phthalate	1670	1430	86	59-106
131-11-3	Dimethyl phthalate	1670	1370	82	60-100
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1450	87	57-111
206-44-0	Fluoranthene	1670	1330	80	60-110
86-73-7	Fluorene	1670	1320	79	60-99
118-74-1	Hexachlorobenzene	1670	1230	74	58-103
87-68-3	Hexachlorobutadiene	1670	1050	63	49-95
77-47-4	Hexachlorocyclopentadiene	1670	1090	65	36-94
67-72-1	Hexachloroethane	1670	1020	61	44-89
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1240	74	57-104
78-59-1	Isophorone	1670	1130	68	58-97
91-57-6	2-Methylnaphthalene	1670	1250	75	57-103
88-74-4	2-Nitroaniline	1670	1440	86	53-106
99-09-2	3-Nitroaniline	1670	937	56	29-85
100-01-6	4-Nitroaniline	1670	1230	74	49-104
91-20-3	Naphthalene	1670	1130	68	54-93
98-95-3	Nitrobenzene	1670	1110	67	53-92
621-64-7	N-Nitroso-di-n-propylamine	1670	1220	73	49-94
86-30-6	N-Nitrosodiphenylamine	1670	1160	70	53-107
85-01-8	Phenanthrene	1670	1310	79	61-103
129-00-0	Pyrene	1670	1310	79	58-109
120-82-1	1,2,4-Trichlorobenzene	1670	1070	64	52-93

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	72%	40-102%
4165-62-2	Phenol-d5	75%	41-100%
118-79-6	2,4,6-Tribromophenol	71%	42-108%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-BS	U013425.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	68%	40-105%
321-60-8	2-Fluorobiphenyl	67%	43-107%
1718-51-0	Terphenyl-d14	68%	45-119%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MS	U013431.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
OP29637-MSD	U013432.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
F66564-4	U013430.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	F66564-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic acid	ND		5310	3280	62	3470	53	6	44-116/36
95-57-8	2-Chlorophenol	ND		2650	1790	67	2120	65	17	54-97/31
59-50-7	4-Chloro-3-methyl phenol	ND		2650	2250	85	2600	79	14	59-102/27
120-83-2	2,4-Dichlorophenol	ND		2650	2050	77	2400	73	16	60-101/30
105-67-9	2,4-Dimethylphenol	ND		2650	1780	67	2090	64	16	49-89/31
51-28-5	2,4-Dinitrophenol	ND		5310	1980	37*	1780	27*	11	39-107/40
534-52-1	4,6-Dinitro-o-cresol	ND		5310	2920	55*	2980	45*	2	58-109/37
95-48-7	2-Methylphenol	ND		2650	1830	69	2170	66	17	53-94/29
	3&4-Methylphenol	ND		5310	3880	73	4540	69	16	54-95/31
88-75-5	2-Nitrophenol	ND		2650	1780	67	2130	65	18	55-96/30
100-02-7	4-Nitrophenol	ND		5310	4430	84	4850	74	9	56-106/29
87-86-5	Pentachlorophenol	ND		5310	4160	78	4520	69	8	50-115/33
108-95-2	Phenol	ND		2650	1920	72	2280	69	17	55-99/28
95-95-4	2,4,5-Trichlorophenol	ND		2650	1990	75	2330	71	16	60-101/28
88-06-2	2,4,6-Trichlorophenol	ND		2650	2020	76	2350	72	15	60-100/27
83-32-9	Acenaphthene	ND		2650	1890	71	2210	67	16	59-97/29
208-96-8	Acenaphthylene	ND		2650	1830	69	2120	65	15	58-98/30
120-12-7	Anthracene	ND		2650	1880	71	2160	66	14	61-104/29
56-55-3	Benzo(a)anthracene	ND		2650	2050	77	2350	72	14	60-106/31
50-32-8	Benzo(a)pyrene	ND		2650	2040	77	2270	69	11	59-102/32
205-99-2	Benzo(b)fluoranthene	ND		2650	2150	81	2380	72	10	60-107/31
191-24-2	Benzo(g,h,i)perylene	ND		2650	1910	72	2210	67	15	56-103/32
207-08-9	Benzo(k)fluoranthene	ND		2650	2180	82	2430	74	11	61-107/30
101-55-3	4-Bromophenyl phenyl ether	ND		2650	1970	74	2260	69	14	60-104/26
85-68-7	Butyl benzyl phthalate	ND		2650	2230	84	2540	77	13	57-110/28
100-51-6	Benzyl Alcohol	ND		2650	1900	72	2300	70	19	51-102/34
91-58-7	2-Chloronaphthalene	ND		2650	1660	63	1980	60	18	57-95/28
106-47-8	4-Chloroaniline	ND		2650	1570	59	1970	60	23	19-85/34
218-01-9	Chrysene	ND		2650	2070	78	2360	72	13	60-107/31
111-91-1	bis(2-Chloroethoxy)methane	ND		2650	1840	69	2170	66	16	51-89/30
111-44-4	bis(2-Chloroethyl)ether	ND		2650	1610	61	1820	55	12	50-96/33
108-60-1	bis(2-Chloroisopropyl)ether	ND		2650	1660	63	1890	58	13	44-94/32
7005-72-3	4-Chlorophenyl phenyl ether	ND		2650	2090	79	2370	72	13	60-101/26
95-50-1	1,2-Dichlorobenzene	ND		2650	1320	50	1420	43*	7	47-91/35
541-73-1	1,3-Dichlorobenzene	ND		2650	1190	45	1250	38*	5	45-86/36
106-46-7	1,4-Dichlorobenzene	ND		2650	1230	46	1310	40*	6	45-88/36

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MS	U013431.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
OP29637-MSD	U013432.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
F66564-4	U013430.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	F66564-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	ND		2650	2050	77	2320	71	12	59-103/30
606-20-2	2,6-Dinitrotoluene	ND		2650	1950	74	2220	68	13	57-99/30
91-94-1	3,3'-Dichlorobenzidine	ND		2650	1560	59	1970	60	23	34-88/31
53-70-3	Dibenzo(a,h)anthracene	ND		2650	1930	73	2240	68	15	57-105/29
132-64-9	Dibenzofuran	ND		2650	1790	67	2150	65	18	58-103/27
84-74-2	Di-n-butyl phthalate	ND		2650	2210	83	2470	75	11	59-105/27
117-84-0	Di-n-octyl phthalate	ND		2650	2520	95	2740	83	8	59-117/28
84-66-2	Diethyl phthalate	ND		2650	2250	85	2520	77	11	59-106/27
131-11-3	Dimethyl phthalate	ND		2650	2140	81	2410	73	12	60-100/26
117-81-7	bis(2-Ethylhexyl)phthalate	ND		2650	2300	87	2600	79	12	57-111/29
206-44-0	Fluoranthene	ND		2650	2090	79	2360	72	12	60-110/32
86-73-7	Fluorene	ND		2650	2030	77	2310	70	13	60-99/30
118-74-1	Hexachlorobenzene	ND		2650	1870	70	2160	66	14	58-103/27
87-68-3	Hexachlorobutadiene	ND		2650	1370	52	1540	47*	12	49-95/33
77-47-4	Hexachlorocyclopentadiene	ND		2650	1460	55	1730	53	17	36-94/41
67-72-1	Hexachloroethane	ND		2650	1190	45	1260	38*	6	44-89/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		2650	1880	71	2180	66	15	57-104/33
78-59-1	Isophorone	ND		2650	1680	63	1960	60	15	58-97/30
91-57-6	2-Methylnaphthalene	ND		2650	1730	65	2150	65	22	57-103/32
88-74-4	2-Nitroaniline	ND		2650	2130	80	2600	79	20	53-106/29
99-09-2	3-Nitroaniline	ND		2650	1690	64	2120	65	23	29-85/31
100-01-6	4-Nitroaniline	ND		2650	1870	70	2240	68	18	49-104/31
91-20-3	Naphthalene	ND		2650	1560	59	1830	56	16	54-93/32
98-95-3	Nitrobenzene	ND		2650	1560	59	1830	56	16	53-92/32
621-64-7	N-Nitroso-di-n-propylamine	ND		2650	1760	66	2070	63	16	49-94/28
86-30-6	N-Nitrosodiphenylamine	ND		2650	1790	67	2050	62	14	53-107/28
85-01-8	Phenanthrene	ND		2650	2030	77	2340	71	14	61-103/32
129-00-0	Pyrene	ND		2650	2020	76	2340	71	15	58-109/33
120-82-1	1,2,4-Trichlorobenzene	ND		2650	1420	54	1660	51*	16	52-93/32

CAS No.	Surrogate Recoveries	MS	MSD	F66564-4	Limits
367-12-4	2-Fluorophenol	65%	68%	60%	40-102%
4165-62-2	Phenol-d5	70%	72%	63%	41-100%
118-79-6	2,4,6-Tribromophenol	68%	68%	65%	42-108%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29637-MS	U013431.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
OP29637-MSD	U013432.D	1	07/21/09	NAF	07/17/09	OP29637	SU648
F66564-4	U013430.D	1	07/21/09	NAF	07/17/09	OP29637	SU648

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Surrogate Recoveries	MS	MSD	F66564-4	Limits
4165-60-0	Nitrobenzene-d5	62%	63%	57%	40-105%
321-60-8	2-Fluorobiphenyl	61%	62%	58%	43-107%
1718-51-0	Terphenyl-d14	64%	65%	63%	45-119%

GC 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: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2114-MB	QR048763.D	1	07/16/09	AH	n/a	n/a	GQR2114

The QC reported here applies to the following samples: **Method:** SW846 8015

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9, F66564-10

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	72%	56-136%
98-08-8	aaa-Trifluorotoluene	77%	61-121%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2123-MB	QR048955.D	1	07/29/09	AH	n/a	n/a	GQR2123

The QC reported here applies to the following samples: **Method:** SW846 8015

F66564-11, F66564-12

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	91%	56-136%
98-08-8	aaa-Trifluorotoluene	80%	61-121%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2114-BS	QR048752.D	1	07/16/09	AH	n/a	n/a	GQR2114

The QC reported here applies to the following samples: **Method:** SW846 8015

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9, F66564-10

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	17.7	89	74-121

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	84%	56-136%
98-08-8	aaa-Trifluorotoluene	93%	61-121%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQR2123-BS	QR048954.D	1	07/29/09	AH	n/a	n/a	GQR2123

The QC reported here applies to the following samples: **Method:** SW846 8015

F66564-11, F66564-12

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	17.6	88	74-121

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	108%	56-136%
98-08-8	aaa-Trifluorotoluene	96%	61-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66564-4MS	QR048775.D	1	07/16/09	AH	n/a	n/a	GQR2114
F66564-4MSD	QR048776.D	1	07/16/09	AH	n/a	n/a	GQR2114
F66564-4	QR048757.D	1	07/16/09	AH	n/a	n/a	GQR2114

The QC reported here applies to the following samples: **Method:** SW846 8015

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9, F66564-10

CAS No.	Compound	F66564-4 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		42.2	35.0	83	34.9	83	0	74-121/17

CAS No.	Surrogate Recoveries	MS	MSD	F66564-4	Limits
460-00-4	4-Bromofluorobenzene	103%	95%	70%	56-136%
98-08-8	aaa-Trifluorotoluene	100%	98%	78%	61-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66977-1MS	QR048967.D	1	07/29/09	AH	n/a	n/a	GQR2123
F66977-1MSD	QR048968.D	1	07/29/09	AH	n/a	n/a	GQR2123
F66977-1	QR048958.D	1	07/29/09	AH	n/a	n/a	GQR2123

The QC reported here applies to the following samples: **Method:** SW846 8015

F66564-11, F66564-12

CAS No.	Compound	F66977-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		23.3	20.1	86	20.8	89	3	74-121/17

CAS No.	Surrogate Recoveries	MS	MSD	F66977-1	Limits
460-00-4	4-Bromofluorobenzene	103%	107%	79%	56-136%
98-08-8	aaa-Trifluorotoluene	98%	99%	82%	61-121%

GC Semi-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: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29632-MB	XX046547.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642

The QC reported here applies to the following samples: **Method:** SW846 8082

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	17	8.3	ug/kg	
11104-28-2	Aroclor 1221	ND	17	13	ug/kg	
11141-16-5	Aroclor 1232	ND	17	13	ug/kg	
53469-21-9	Aroclor 1242	ND	17	8.3	ug/kg	
12672-29-6	Aroclor 1248	ND	17	8.3	ug/kg	
11097-69-1	Aroclor 1254	ND	17	8.3	ug/kg	
11096-82-5	Aroclor 1260	ND	17	8.3	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	96%	44-126%
2051-24-3	Decachlorobiphenyl	95%	39-157%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29604-MB	LL26804.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	8.3	5.0	mg/kg	
	TPH (> C22-C36)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	86%	49-108%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29604-MB	LL26846.D	1	07/16/09	SL	07/14/09	OP29604	GLL1018

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	8.3	5.0	mg/kg	
	TPH (> C22-C36)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	89%	49-108%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29611-MB	LL26860.D	1	07/16/09	SL	07/15/09	OP29611	GLL1018

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	8.3	5.0	mg/kg	
	TPH (> C22-C36)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	84%	49-108%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29611-MB	LL26886.D	1	07/17/09	SL	07/15/09	OP29611	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	8.3	5.0	mg/kg	
	TPH (> C22-C36)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	86%	49-108%

Method Blank Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29611-MB	LL26916.D	1	07/21/09	SL	07/15/09	OP29611	GLL1021

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	8.3	5.0	mg/kg	
	TPH (> C22-C36)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	83%	49-108%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29632-BS	XX046548.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642

The QC reported here applies to the following samples: **Method:** SW846 8082

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	133	118	89	69-117
11096-82-5	Aroclor 1260	133	124	93	71-121

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	93%	44-126%
2051-24-3	Decachlorobiphenyl	102%	39-157%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29604-BS	LL26803.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C22)	33.3	26.7	80	64-102
	TPH (> C22-C36)	33.3	33.5	101	52-131

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	92%	49-108%

Blank Spike Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29611-BS	LL26859.D	1	07/16/09	SL	07/15/09	OP29611	GLL1018

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-9

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C22)	33.3	26.5	80	64-102
	TPH (> C22-C36)	33.3	29.9	90	52-131

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	86%	49-108%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29632-MS	XX046553.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
OP29632-MSD	XX046554.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642
F66564-4	XX046552.D	1	07/21/09	NJ	07/16/09	OP29632	GXX642

The QC reported here applies to the following samples: **Method:** SW846 8082

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

CAS No.	Compound	F66564-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		212	174	82	185	86	6	69-117/26
11096-82-5	Aroclor 1260	ND		212	184	87	198	92	7	71-121/30

CAS No.	Surrogate Recoveries	MS	MSD	F66564-4	Limits
877-09-8	Tetrachloro-m-xylene	87%	95%	98%	44-126%
2051-24-3	Decachlorobiphenyl	97%	100%	100%	39-157%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29604-MS	LL26808.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
OP29604-MSD	LL26809.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017
F66564-2	LL26807.D	1	07/15/09	SL	07/14/09	OP29604	GLL1017

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8

CAS No.	Compound	F66564-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	ND		39.5	22.0	56*	20.7	52*	6	64-102/32
	TPH (> C22-C36)	ND		39.5	32.2	81	32.1	81	0	52-131/30

CAS No.	Surrogate Recoveries	MS	MSD	F66564-2	Limits
84-15-1	o-Terphenyl	75%	71%	69%	49-108%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66564
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29611-MS	LL26869.D	1	07/16/09	SL	07/15/09	OP29611	GLL1018
OP29611-MSD	LL26870.D	1	07/16/09	SL	07/15/09	OP29611	GLL1018
F66609-4	LL26868.D	1	07/16/09	SL	07/15/09	OP29611	GLL1018

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66564-9

CAS No.	Compound	F66609-4 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	ND		37.1	25.2	68	27.6	72	9	64-102/32
	TPH (> C22-C36)	ND		37.1	31.6	85	36.2	95	14	52-131/30

CAS No.	Surrogate Recoveries	MS	MSD	F66609-4	Limits
84-15-1	o-Terphenyl	79%	89%	79%	49-108%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16679
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 07/15/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	9.6	.53	.96	0.24	<9.6
Antimony	2.9	.22	.23	0.0053	<2.9
Arsenic	0.38	.17	.17	0.10	<0.38
Barium	9.6	.24	.48	-0.011	<9.6
Beryllium	0.24	.048	.096	0.0048	<0.24
Cadmium	0.19	.048	.048	0.0053	<0.19
Calcium	240	4.8	4.8	-2.2	<240
Chromium	0.48	.077	.077	0.029	<0.48
Cobalt	2.4	.04	.04	-0.0087	<2.4
Copper	1.2	.1	.1	0.16	<1.2
Iron	4.8	1.1	1.3	1.6	<4.8
Lead	4.8	.096	.22	0.032	<4.8
Magnesium	240	4.8	4.8	0.39	<240
Manganese	0.72	.024	.024	0.025	<0.72
Molybdenum	2.4	.13	.13		
Nickel	1.9	.11	.15	0.011	<1.9
Potassium	480	4.8	4.8	11.2	<480
Selenium	4.8	.15	.15	0.11	<4.8
Silver	0.48	.058	.058	0.025	<0.48
Sodium	480	24	40	4.3	<480
Thallium	0.48	.16	.16	-0.22	<0.48
Tin	2.4	.13	.35		
Vanadium	2.4	.032	.032	0.0019	<2.4
Zinc	0.96	.18	.18	0.25	<0.96

Associated samples MP16679: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16679
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:			07/15/09					07/15/09	
Metal	F66564-4 Original	DUP	RPD	QC Limits	F66564-4 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	13100	12300	6.3	0-20	13100	16800	2130	173.9(c)	80-120
Antimony	0.0	0.0 (a)	NC	0-20	0.0	6.0 (a)	39.4	15.2N(d)	80-120
Arsenic	5.0	6.1 (a)	3.2	0-20	5.0	174 (a)	158	106.4	80-120
Barium	55.9	56.3	0.7	0-20	55.9	213	158	99.7	80-120
Beryllium	0.76	0.74	2.7	0-20	0.76	4.8	3.94	102.5	80-120
Cadmium	0.19	0.15	23.5 (b)	0-20	0.19	3.8	3.94	91.6	80-120
Calcium	106000	159000	11.3	0-20	106000	152000	1970	-1319.7c	80-120
Chromium	12.4	11.4	8.4	0-20	12.4	28.9	15.8	104.7	80-120
Cobalt	4.6	4.5	2.2	0-20	4.6	40.0	39.4	89.8	80-120
Copper	6.3	6.4	1.6	0-20	6.3	27.9	19.7	109.6	80-120
Iron	9480	8450	11.5	0-20	9480	12200	2050	132.8(c)	80-120
Lead	5.2	6.7 (a)	4.6	0-20	5.2	49.0 (a)	39.4	108.1	80-120
Magnesium	18000	18800	4.3	0-20	18000	23500	1970	279.2(c)	80-120
Manganese	150	146	2.7	0-20	150	187	39.4	93.9	80-120
Molybdenum									
Nickel	10.3	10.5	1.9	0-20	10.3	46.8	39.4	92.6	80-120
Potassium	4440	4060	8.9	0-20	4440	6580	1970	108.6	80-120
Selenium	0.54	3.6 (a)	5.7	0-20	0.54	174 (a)	158	108.2	80-120
Silver	0.0	0.0	NC	0-20	0.0	3.6	3.94	91.4	80-120
Sodium	988	1020	3.2	0-20	988	3420	1970	123.4N(d	80-120
Thallium	0.0	0.0 (a)	NC	0-20	0.0	136	158	86.3	80-120
Tin									
Vanadium	23.2	20.4	12.8	0-20	23.2	61.4	39.4	96.9	80-120
Zinc	27.9	27.0	3.3	0-20	27.9	66.7	39.4	98.5	80-120

Associated samples MP16679: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.
(b) RPD acceptable due to low duplicate and sample concentrations.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(d) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16679
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 07/15/09

Metal	F66564-4 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum	13100	15000	2190	86.7	11.3	20
Antimony	0.0	8.8 (a)	40.6	21.7N(b)	37.8 (c)	20
Arsenic	5.0	176 (a)	162	104.5	1.1	20
Barium	55.9	227	162	105.4	6.4	20
Beryllium	0.76	5.0	4.06	104.5	4.1	20
Cadmium	0.19	4.0	4.06	93.9	5.1	20
Calcium	106000	157000	2030	-1034.9d	3.2	20
Chromium	12.4	28.0	16.2	96.1	3.2	20
Cobalt	4.6	43.0	40.6	94.6	7.2	20
Copper	6.3	29.3	20.3	113.3	4.9	20
Iron	9480	10800	2110	62.5 (d)	12.2	20
Lead	5.2	48.6 (a)	40.6	104.0	0.8	20
Magnesium	18000	21500	2030	172.5(d)	8.9	20
Manganese	150	223	40.6	179.9N(b	17.6	20
Molybdenum						
Nickel	10.3	49.1	40.6	95.6	4.8	20
Potassium	4440	6290	2030	91.2	1.8	20
Selenium	0.54	175 (a)	162	105.7	0.6	20
Silver	0.0	3.8	4.06	93.6	5.4	20
Sodium	988	3470	2030	122.3N(b	1.5	20
Thallium	0.0	146	162	89.9	7.1	20
Tin						
Vanadium	23.2	61.4	40.6	94.1	0.0	20
Zinc	27.9	66.7	40.6	95.6	0.0	20

Associated samples MP16679: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(c) High RPD due to possible sample nonhomogeneity.
(d) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16679
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 07/15/09

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	1310	1300	100.9	80-120
Antimony	26.3	24	109.4	80-120
Arsenic	102	96.2	106.1	80-120
Barium	106	96.2	110.2	80-120
Beryllium	2.8	2.4	116.5	80-120
Cadmium	2.7	2.4	112.3	80-120
Calcium	1290	1200	107.3	80-120
Chromium	11.1	9.62	115.4	80-120
Cobalt	27.4	24	114.0	80-120
Copper	13.7	12	114.0	80-120
Iron	1330	1250	106.4	80-120
Lead	27.3	24	113.6	80-120
Magnesium	1210	1200	100.7	80-120
Manganese	27.8	24	115.6	80-120
Molybdenum				
Nickel	28.0	24	116.5	80-120
Potassium	1170	1200	97.3	80-120
Selenium	100	96.2	104.0	80-120
Silver	2.2	2.4	91.5	80-120
Sodium	1190	1200	99.0	80-120
Thallium	106	96.2	110.2	80-120
Tin				
Vanadium	26.3	24	109.4	80-120
Zinc	28.0	24	116.5	80-120

Associated samples MP16679: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16679
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	F66564-4 Original	SDL 1:5	%DIF	QC Limits
Aluminum	170000	178000	4.9	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	64.9	0.00	100.0(a)	0-10
Barium	723	781	7.9	0-10
Beryllium	9.82	10.0	2.2	0-10
Cadmium	2.44	0.00	100.0(a)	0-10
Calcium	1370000	2590000	12.5*(b)	0-10
Chromium	161	185	15.3*(b)	0-10
Cobalt	58.9	69.0	17.2*(b)	0-10
Copper	82.0	89.2	8.8	0-10
Iron	123000	143000	16.6*(b)	0-10
Lead	67.1	133	61.0 (a)	0-10
Magnesium	232000	267000	15.0*(b)	0-10
Manganese	1940	2240	15.4*(b)	0-10
Molybdenum				
Nickel	133	174	30.5*(b)	0-10
Potassium	57500	56700	1.3	0-10
Selenium	6.98	111	151.9(a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium	12800	12000	6.2	0-10
Thallium	0.00	0.00	NC	0-10
Tin				
Vanadium	300	341	13.8*(b)	0-10
Zinc	360	464	28.9*(b)	0-10

Associated samples MP16679: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16690 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 07/17/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.083	.012	.012	-0.0055	<0.083

Associated samples MP16690: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.1
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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16690 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 07/17/09 07/17/09

Metal	F66564-4 Original	DUP	RPD	QC Limits	F66564-4 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	0.40	0.387	103.5	80-120

Associated samples MP16690: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16690 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 07/17/09

Metal	F66564-4 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	0.42	0.406	103.5	4.9	20

Associated samples MP16690: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16690
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 07/17/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.24	0.25	96.0	80-120

Associated samples MP16690: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66564
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16690
Matrix Type: SOLID

Methods: SW846 7471A
Units: ug/l

Prep Date: 07/17/09

Metal	F66564-4 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16690: F66564-1, F66564-2, F66564-3, F66564-4, F66564-5, F66564-6, F66564-7, F66564-8, F66564-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/28/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66576

Sampling Date: 07/09/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **88**

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Harry Behzadi, Ph.D.
Laboratory Director

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Sample Summary

Nation View

Job No: F66576

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66576-1	07/09/09	08:40	CM	07/10/09	AQ	Ground Water	SWMU122-MW10
F66576-1D	07/09/09	08:40	CM	07/10/09	AQ	Water Dup/MSD	SWMU122-MW10
F66576-1S	07/09/09	08:40	CM	07/10/09	AQ	Water Matrix Spike	SWMU122-MW10
F66576-2	07/09/09	08:40	CM	07/10/09	AQ	Ground Water	SWMU122-MW10-A
F66576-3	07/09/09	08:40	CM	07/10/09	AQ	Trip Blank Water	TRIP BLANK-COOLER 1
F66576-4	07/09/09	08:40	CM	07/10/09	AQ	Trip Blank Water	TRIP BLANK-COOLER 2
F66576-5	07/09/09	08:40	CM	07/10/09	AQ	Trip Blank Water	TRIP BLANK-COOLER 3
F66576-6	07/09/09	08:40	CM	07/10/09	AQ	Trip Blank Water	TRIP BLANK-COOLER 4

Sample Results

Report of Analysis

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Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036382.D	1	07/14/09	MM	n/a	n/a	VN1487
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

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Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	106%		84-120%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	9.8	ug/l	
95-57-8	2-Chlorophenol	ND	4.9	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.9	0.98	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.9	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.9	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	9.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.8	3.9	ug/l	
95-48-7	2-Methylphenol	ND	4.9	0.98	ug/l	
	3&4-Methylphenol	ND	4.9	0.98	ug/l	
88-75-5	2-Nitrophenol	ND	4.9	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	9.8	ug/l	
87-86-5	Pentachlorophenol	ND	25	9.8	ug/l	
108-95-2	Phenol	ND	4.9	0.98	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.9	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.9	1.4	ug/l	
83-32-9	Acenaphthene	ND	4.9	0.98	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.98	ug/l	
120-12-7	Anthracene	ND	4.9	0.98	ug/l	
92-87-5	Benzidine	ND	25	9.8	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.98	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.98	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.98	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	0.98	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.98	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.9	0.98	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.9	0.98	ug/l	
100-51-6	Benzyl Alcohol	ND	4.9	0.98	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.9	0.98	ug/l	
106-47-8	4-Chloroaniline	ND	4.9	0.98	ug/l	
218-01-9	Chrysene	ND	4.9	0.98	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.9	0.98	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.9	0.98	ug/l	

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.9	0.98	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.9	0.98	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.9	0.98	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.9	0.98	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.9	0.98	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.9	0.98	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.9	0.98	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.8	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	0.98	ug/l	
132-64-9	Dibenzofuran	ND	4.9	0.98	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.9	0.98	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.9	1.5	ug/l	
84-66-2	Diethyl phthalate	2.1	4.9	2.0	ug/l	J
131-11-3	Dimethyl phthalate	ND	4.9	0.98	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4.9	2.0	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.98	ug/l	
86-73-7	Fluorene	ND	4.9	0.98	ug/l	
118-74-1	Hexachlorobenzene	ND	4.9	0.98	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.9	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.9	1.3	ug/l	
67-72-1	Hexachloroethane	ND	4.9	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	1.1	ug/l	
78-59-1	Isophorone	ND	4.9	0.98	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.98	ug/l	
88-74-4	2-Nitroaniline	ND	9.8	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	9.8	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	9.8	2.0	ug/l	
91-20-3	Naphthalene	ND	4.9	0.98	ug/l	
98-95-3	Nitrobenzene	ND	4.9	0.98	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.9	0.98	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.9	2.0	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.98	ug/l	
129-00-0	Pyrene	ND	4.9	0.98	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.9	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	43%		14-62%
4165-62-2	Phenol-d5	28%		10-40%
118-79-6	2,4,6-Tribromophenol	81%		33-118%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		42-108%
321-60-8	2-Fluorobiphenyl	73%		40-106%
1718-51-0	Terphenyl-d14	75%		39-121%

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

Accutest LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089132.D	1	07/13/09	SL	n/a	n/a	GCD3756
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		57-129%
98-08-8	aaa-Trifluorotoluene	90%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046483.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.51	0.26	ug/l	
11104-28-2	Aroclor 1221	ND	0.51	0.41	ug/l	
11141-16-5	Aroclor 1232	ND	0.51	0.41	ug/l	
53469-21-9	Aroclor 1242	ND	0.51	0.26	ug/l	
12672-29-6	Aroclor 1248	ND	0.51	0.26	ug/l	
11097-69-1	Aroclor 1254	ND	0.51	0.26	ug/l	
11096-82-5	Aroclor 1260	ND	0.51	0.26	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	94%		38-127%
2051-24-3	Decachlorobiphenyl	94%		25-137%

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 LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26891.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		42-114%

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 LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	26.2 J	200	11	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Antimony [a]	9.0 U	12	9.0	ug/l	2	07/15/09	07/16/09	RS	SW846 6010B [3]	SW846 3010A [4]
Arsenic [a]	11 U	20	11	ug/l	2	07/15/09	07/16/09	RS	SW846 6010B [3]	SW846 3010A [4]
Barium	34.6 J	200	5.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Calcium	598000	2000	200	ug/l	2	07/15/09	07/16/09	RS	SW846 6010B [3]	SW846 3010A [4]
Chromium	2.0 U	10	2.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cobalt	1.0 U	50	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Copper	5.0 U	25	5.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Iron	23 U	300	23	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Lead [a]	4.0 U	10	4.0	ug/l	2	07/15/09	07/16/09	RS	SW846 6010B [3]	SW846 3010A [4]
Magnesium	18300	5000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Manganese	44.4	15	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [2]	SW846 7470A [5]
Nickel	2.3 U	40	2.3	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Potassium	6820 J	10000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Selenium [a]	16.9 J	20	6.8	ug/l	2	07/15/09	07/16/09	RS	SW846 6010B [3]	SW846 3010A [4]
Silver	1.4 U	10	1.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Sodium	13300	10000	500	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Thallium	3.6 U	10	3.6	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Vanadium	61.6	50	0.90	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Zinc	7.4 U	20	7.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA7361
(2) Instrument QC Batch: MA7365
(3) Instrument QC Batch: MA7367
(4) Prep QC Batch: MP16681
(5) Prep QC Batch: MP16684

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW10		
Lab Sample ID:	F66576-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved [a]	5600	10000	1000	mg/l	100	07/13/09	LE	SM19 2540C

(a) Dilution required due to difficult sample matrix.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036383.D	1	07/14/09	MM	n/a	n/a	VN1487
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013335.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.1	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.1	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.1	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.1	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.1	1.0	ug/l	
	3&4-Methylphenol	ND	5.1	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.1	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.1	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.1	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.1	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.1	1.0	ug/l	
120-12-7	Anthracene	ND	5.1	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.1	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.1	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.1	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.1	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.1	1.0	ug/l	
218-01-9	Chrysene	ND	5.1	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.1	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.1	1.0	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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.1	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.1	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.1	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.1	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.1	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.1	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.1	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.1	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.1	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.1	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.1	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.1	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.1	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.1	1.0	ug/l	
86-73-7	Fluorene	ND	5.1	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.1	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.1	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.1	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.1	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	1.1	ug/l	
78-59-1	Isophorone	ND	5.1	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.1	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.1	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.1	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.1	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.1	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.1	1.0	ug/l	
129-00-0	Pyrene	ND	5.1	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.1	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		14-62%
4165-62-2	Phenol-d5	27%		10-40%
118-79-6	2,4,6-Tribromophenol	77%		33-118%

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:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	75%		42-108%
321-60-8	2-Fluorobiphenyl	72%		40-106%
1718-51-0	Terphenyl-d14	71%		39-121%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089137.D	1	07/13/09	SL	n/a	n/a	GCD3756
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	87%		57-129%
98-08-8	aaa-Trifluorotoluene	85%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046486.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.51	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.51	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.51	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.51	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.51	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.51	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.51	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	94%		38-127%
2051-24-3	Decachlorobiphenyl	95%		25-137%

ND = Not detected MDL - Method Detection Limit
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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 LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26896.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	0.108	0.26	0.10	mg/l	J
	TPH (> C22-C36)	0.111	0.26	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		42-114%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	22.5 J	200	11	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Antimony [a]	9.0 U	12	9.0	ug/l	2	07/15/09	07/17/09	RS	SW846 6010B [3]	SW846 3010A [4]
Arsenic [a]	11 U	20	11	ug/l	2	07/15/09	07/17/09	RS	SW846 6010B [3]	SW846 3010A [4]
Barium	34.7 J	200	5.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Calcium	618000	2000	200	ug/l	2	07/15/09	07/17/09	RS	SW846 6010B [3]	SW846 3010A [4]
Chromium	2.0 U	10	2.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cobalt	1.0 U	50	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Copper	5.0 U	25	5.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Iron	23 U	300	23	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Lead [a]	4.0 U	10	4.0	ug/l	2	07/15/09	07/17/09	RS	SW846 6010B [3]	SW846 3010A [4]
Magnesium	18400	5000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Manganese	44.8	15	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [2]	SW846 7470A [5]
Nickel	2.3 U	40	2.3	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Potassium	6920 J	10000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Selenium [a]	20.7	20	6.8	ug/l	2	07/15/09	07/17/09	RS	SW846 6010B [3]	SW846 3010A [4]
Silver	1.4 U	10	1.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Sodium	13600	10000	500	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Thallium	3.6 U	10	3.6	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Vanadium	61.7	50	0.90	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Zinc	7.4 U	20	7.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA7361
(2) Instrument QC Batch: MA7365
(3) Instrument QC Batch: MA7370
(4) Prep QC Batch: MP16681
(5) Prep QC Batch: MP16684

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU122-MW10-A		
Lab Sample ID:	F66576-2	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/10/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	3520	100	10	mg/l	1	07/15/09	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 1		
Lab Sample ID:	F66576-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036384.D	1	07/14/09	MM	n/a	n/a	VN1487
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 1		
Lab Sample ID:	F66576-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	1.1	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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-COOLER 1		
Lab Sample ID:	F66576-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	103%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	108%		84-120%

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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 2		
Lab Sample ID:	F66576-4	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036385.D	1	07/14/09	MM	n/a	n/a	VN1487
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 2		
Lab Sample ID:	F66576-4	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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-COOLER 2		
Lab Sample ID:	F66576-4	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	108%		84-120%

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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 3		
Lab Sample ID:	F66576-5	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036386.D	1	07/14/09	MM	n/a	n/a	VN1487
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 3		
Lab Sample ID:	F66576-5	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	0.61	2.0	0.61	ug/l	J
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 3		
Lab Sample ID:	F66576-5	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	105%		76-127%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

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 LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 4		
Lab Sample ID:	F66576-6	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036387.D	1	07/14/09	MM	n/a	n/a	VN1487
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 4		
Lab Sample ID:	F66576-6	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	1.3	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 14:59 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 4		
Lab Sample ID:	F66576-6	**Date Sampled:**	07/09/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/10/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

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:

- Certification Exceptions
- Chain of Custody

F66576

NATIONVIEW

PO# - 09-0112

Page: 1 of 1

NationView Project No: 8080014.02.020

COC Number[1]: 7/9/09

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122/123

Client Name: USACE

Collected by: Craig McGriff

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [3]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
	Sample Analysis Requested [5]																			Quality Assurance Samples [6]			
1	SWMU122-MW10		09-July-2009	0840	-	N		WG	14	X	X	X	X	X	X								1
2	SWMU122-MW10-a		09-July-2009	0840	-	FD		WG	14	X	X	X	X	X	X								2
4	SWMU122-MW10-MS		09-Jul-2009	0840	-	MS		WG	14	X	X	X	X	X	X								3
1	SWMU122-MW10-MSD		09-Jul-2009	0840		SD		WG	14	X	X	X	X	X	X								4
3	Trip Blank-Cooler 1		09-July-2009	0840		TB		WQ	2	X													1
4	Trip Blank-Cooler 2		09-Jul-2009	0840	-	TB		WQ	2	X													2
5	Trip Blank-Cooler 3		09-Jul-2009	0840	-	TB		WQ	2	X													3
6	Trip Blank-Cooler 4		09-Jul-2009	0840	-	TB		WQ	2	X													4
					-																		
					-																		
					-																		

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time		Received by (signed)	Date	Time
1.	[signature]	7/9/09	1500	1.	FX		09:00
2.	FX			2.	Cooler (ACCUTEST)	7-10-09	
3.				3.			

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No:

Method of Shipment: Airbill Number:

Analytical Lab: Delivery Location:

Lab Recipient: Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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 101099001 in the Equipment Blank Lot Control

1.2 2.4 1.8 2.0

F66576: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66576 CLIENT: NATIONVIEW PROJECT: SWMU 122 /123

DATE/TIME RECEIVED: 7-10-09 09:00 # OF COOLERS RECEIVED: 4 COOLER TEMPS: 1.2 2.4 1.8 2.0

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

AIRBILL NUMBERS: 8696 4911 0830

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] 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 NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] 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 NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? _____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

SUMMARY OF COMMENTS: RECEIVED 4 TB

TECHNICIAN SIGNATURE/DATE JC 7-10-09 TECHNICIAN SIGNATURE/DATE

ASBD 12/17/07

F66576: 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: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1487-MB	N0036380.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	

Method Blank Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1487-MB	N0036380.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

Method Blank Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1487-MB	N0036380.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	101%	76-127%
2037-26-5	Toluene-D8	97%	86-112%
460-00-4	4-Bromofluorobenzene	107%	84-120%

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1487-BS	N0036379.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	144	115	59-134
107-02-8	Acrolein	125	81.4	65	33-157
107-13-1	Acrylonitrile	125	132	106	62-124
71-43-2	Benzene	25	29.7	119	83-124
108-86-1	Bromobenzene	25	26.5	106	83-115
74-97-5	Bromochloromethane	25	28.5	114*	78-112
75-27-4	Bromodichloromethane	25	27.1	108	76-116
75-25-2	Bromoform	25	24.5	98	68-128
104-51-8	n-Butylbenzene	25	25.6	102	84-124
135-98-8	sec-Butylbenzene	25	26.2	105	86-127
98-06-6	tert-Butylbenzene	25	26.0	104	83-126
108-90-7	Chlorobenzene	25	25.0	100	87-115
75-00-3	Chloroethane	25	22.9	92	54-166
67-66-3	Chloroform	25	30.9	124*	85-123
95-49-8	o-Chlorotoluene	25	24.6	98	84-121
106-43-4	p-Chlorotoluene	25	25.1	100	84-120
110-75-8	2-Chloroethyl vinyl ether	125	117	94	63-125
75-15-0	Carbon disulfide	25	26.3	105	67-147
56-23-5	Carbon tetrachloride	25	33.0	132	74-139
75-34-3	1,1-Dichloroethane	25	31.2	125	82-127
75-35-4	1,1-Dichloroethylene	25	26.9	108	75-133
563-58-6	1,1-Dichloropropene	25	31.3	125	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	21.2	85	61-118
106-93-4	1,2-Dibromoethane	25	25.5	102	80-115
107-06-2	1,2-Dichloroethane	25	27.8	111	76-122
78-87-5	1,2-Dichloropropane	25	27.5	110	81-120
142-28-9	1,3-Dichloropropane	25	24.4	98	81-113
594-20-7	2,2-Dichloropropane	25	33.4	134	77-138
124-48-1	Dibromochloromethane	25	26.1	104	74-116
75-71-8	Dichlorodifluoromethane	25	23.7	95	34-158
156-59-2	cis-1,2-Dichloroethylene	25	28.2	113	81-114
10061-01-5	cis-1,3-Dichloropropene	25	28.0	112	83-119
541-73-1	m-Dichlorobenzene	25	26.7	107	86-115
95-50-1	o-Dichlorobenzene	25	25.5	102	85-115
106-46-7	p-Dichlorobenzene	25	26.4	106	87-113
156-60-5	trans-1,2-Dichloroethylene	25	26.8	107	82-126

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1487-BS	N0036379.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	25	25.5	102	87-123
100-41-4	Ethylbenzene	25	25.5	102	87-118
591-78-6	2-Hexanone	125	124	99	58-125
87-68-3	Hexachlorobutadiene	25	29.4	118	71-133
110-54-3	Hexane	25	29.5	118	71-134
98-82-8	Isopropylbenzene	25	27.0	108	87-131
99-87-6	p-Isopropyltoluene	25	25.8	103	83-125
108-10-1	4-Methyl-2-pentanone	125	110	88	62-125
74-83-9	Methyl bromide	25	23.3	93	55-151
74-87-3	Methyl chloride	25	31.6	126	55-173
74-95-3	Methylene bromide	25	28.3	113	81-116
75-09-2	Methylene chloride	25	22.1	88	69-125
78-93-3	Methyl ethyl ketone	125	133	106	61-127
1634-04-4	Methyl Tert Butyl Ether	25	24.9	100	75-116
91-20-3	Naphthalene	25	22.9	92	59-125
103-65-1	n-Propylbenzene	25	25.9	104	86-125
100-42-5	Styrene	25	24.6	98	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	26.7	107	81-119
71-55-6	1,1,1-Trichloroethane	25	32.2	129	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	22.7	91	71-120
79-00-5	1,1,2-Trichloroethane	25	24.3	97	80-114
87-61-6	1,2,3-Trichlorobenzene	25	24.6	98	64-126
96-18-4	1,2,3-Trichloropropane	25	20.2	81	77-115
120-82-1	1,2,4-Trichlorobenzene	25	25.6	102	68-123
95-63-6	1,2,4-Trimethylbenzene	25	24.9	100	82-120
108-67-8	1,3,5-Trimethylbenzene	25	25.0	100	83-123
127-18-4	Tetrachloroethylene	25	29.9	120	80-131
108-88-3	Toluene	25	27.0	108	86-116
79-01-6	Trichloroethylene	25	29.9	120	85-124
75-69-4	Trichlorofluoromethane	25	26.4	106	66-156
75-01-4	Vinyl chloride	25	31.4	126	57-153
108-05-4	Vinyl Acetate	125	142	114	38-159
	m,p-Xylene	50	50.4	101	86-121
95-47-6	o-Xylene	25	25.3	101	83-121

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1487-BS	N0036379.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	87-116%
17060-07-0	1,2-Dichloroethane-D4	103%	76-127%
2037-26-5	Toluene-D8	91%	86-112%
460-00-4	4-Bromofluorobenzene	98%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66576-1MS	N0036389.D	1	07/14/09	MM	n/a	n/a	VN1487
F66576-1MSD	N0036390.D	1	07/14/09	MM	n/a	n/a	VN1487
F66576-1	N0036382.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	100	80	95.3	76	5	59-134/14
107-02-8	Acrolein	ND		125	65.7	53	70.6	56	7	33-157/21
107-13-1	Acrylonitrile	ND		125	138	110	136	109	1	62-124/13
71-43-2	Benzene	ND		25	29.8	119	29.3	117	2	83-124/11
108-86-1	Bromobenzene	ND		25	26.1	104	25.9	104	1	83-115/10
74-97-5	Bromochloromethane	ND		25	27.6	110	28.3	113*	3	78-112/10
75-27-4	Bromodichloromethane	ND		25	28.0	112	27.7	111	1	76-116/10
75-25-2	Bromoform	ND		25	25.7	103	26.1	104	2	68-128/11
104-51-8	n-Butylbenzene	ND		25	25.7	103	25.3	101	2	84-124/10
135-98-8	sec-Butylbenzene	ND		25	26.4	106	26.0	104	2	86-127/10
98-06-6	tert-Butylbenzene	ND		25	26.2	105	25.7	103	2	83-126/10
108-90-7	Chlorobenzene	ND		25	25.3	101	25.0	100	1	87-115/9
75-00-3	Chloroethane	ND		25	26.1	104	24.5	98	6	54-166/20
67-66-3	Chloroform	ND		25	31.6	126*	31.2	125*	1	85-123/10
95-49-8	o-Chlorotoluene	ND		25	24.3	97	23.9	96	2	84-121/10
106-43-4	p-Chlorotoluene	ND		25	25.2	101	24.5	98	3	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		25	27.2	109	25.7	103	6	67-147/12
56-23-5	Carbon tetrachloride	ND		25	33.4	134	33.3	133	0	74-139/13
75-34-3	1,1-Dichloroethane	ND		25	31.7	127	31.2	125	2	82-127/10
75-35-4	1,1-Dichloroethylene	ND		25	29.4	118	28.2	113	4	75-133/13
563-58-6	1,1-Dichloropropene	ND		25	31.5	126	31.2	125	1	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	23.6	94	24.4	98	3	61-118/15
106-93-4	1,2-Dibromoethane	ND		25	26.3	105	25.8	103	2	80-115/10
107-06-2	1,2-Dichloroethane	ND		25	29.6	118	29.4	118	1	76-122/11
78-87-5	1,2-Dichloropropane	ND		25	29.2	117	28.4	114	3	81-120/11
142-28-9	1,3-Dichloropropane	ND		25	24.8	99	24.8	99	0	81-113/11
594-20-7	2,2-Dichloropropane	ND		25	34.0	136	32.8	131	4	77-138/12
124-48-1	Dibromochloromethane	ND		25	26.5	106	27.1	108	2	74-116/11
75-71-8	Dichlorodifluoromethane	ND		25	24.5	98	24.1	96	2	34-158/22
156-59-2	cis-1,2-Dichloroethylene	ND		25	27.7	111	28.1	112	1	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	27.5	110	27.2	109	1	83-119/10
541-73-1	m-Dichlorobenzene	ND		25	27.2	109	27.1	108	0	86-115/9
95-50-1	o-Dichlorobenzene	ND		25	26.3	105	26.0	104	1	85-115/9
106-46-7	p-Dichlorobenzene	ND		25	26.4	106	26.2	105	1	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		25	29.1	116	27.8	111	5	82-126/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66576-1MS	N0036389.D	1	07/14/09	MM	n/a	n/a	VN1487
F66576-1MSD	N0036390.D	1	07/14/09	MM	n/a	n/a	VN1487
F66576-1	N0036382.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		25	26.0	104	25.6	102	2	87-123/10
100-41-4	Ethylbenzene	ND		25	25.9	104	25.4	102	2	87-118/10
591-78-6	2-Hexanone	ND		125	134	107	130	104	3	58-125/14
87-68-3	Hexachlorobutadiene	ND		25	30.9	124	30.8	123	0	71-133/12
110-54-3	Hexane	ND		25	31.9	128	29.0	116	10	71-134/11
98-82-8	Isopropylbenzene	ND		25	27.8	111	27.8	111	0	87-131/10
99-87-6	p-Isopropyltoluene	ND		25	26.2	105	25.8	103	2	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		125	134	107	131	105	2	62-125/13
74-83-9	Methyl bromide	ND		25	26.8	107	25.5	102	5	55-151/21
74-87-3	Methyl chloride	ND		25	33.9	136	33.6	134	1	55-173/22
74-95-3	Methylene bromide	ND		25	29.8	119*	29.5	118*	1	81-116/10
75-09-2	Methylene chloride	ND		25	24.9	100	23.8	95	5	69-125/11
78-93-3	Methyl ethyl ketone	ND		125	130	104	126	101	3	61-127/13
1634-04-4	Methyl Tert Butyl Ether	ND		25	26.8	107	26.1	104	3	75-116/10
91-20-3	Naphthalene	ND		25	25.5	102	24.8	99	3	59-125/15
103-65-1	n-Propylbenzene	ND		25	25.7	103	25.2	101	2	86-125/10
100-42-5	Styrene	ND		25	25.6	102	25.1	100	2	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	27.9	112	27.7	111	1	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		25	32.8	131	32.4	130	1	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	23.7	95	23.2	93	2	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		25	25.3	101	24.8	99	2	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		25	26.0	104	26.2	105	1	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		25	22.6	90	21.3	85	6	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		25	26.2	105	26.5	106	1	68-123/11
95-63-6	1,2,4-Trimethylbenzene	ND		25	25.0	100	24.2	97	3	82-120/10
108-67-8	1,3,5-Trimethylbenzene	ND		25	24.9	100	24.7	99	1	83-123/10
127-18-4	Tetrachloroethylene	ND		25	30.1	120	29.9	120	1	80-131/12
108-88-3	Toluene	ND		25	27.2	109	26.7	107	2	86-116/10
79-01-6	Trichloroethylene	ND		25	30.7	123	30.4	122	1	85-124/10
75-69-4	Trichlorofluoromethane	ND		25	31.6	126	28.8	115	9	66-156/15
75-01-4	Vinyl chloride	ND		25	31.6	126	31.0	124	2	57-153/22
108-05-4	Vinyl Acetate	ND		125	153	122	149	119	3	38-159/11
	m,p-Xylene	ND		50	51.3	103	50.7	101	1	86-121/10
95-47-6	o-Xylene	ND		25	25.8	103	25.7	103	0	83-121/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66576-1MS	N0036389.D	1	07/14/09	MM	n/a	n/a	VN1487
F66576-1MSD	N0036390.D	1	07/14/09	MM	n/a	n/a	VN1487
F66576-1	N0036382.D	1	07/14/09	MM	n/a	n/a	VN1487

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

F66576-1, F66576-2, F66576-3, F66576-4, F66576-5, F66576-6

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
1868-53-7	Dibromofluoromethane	105%	104%	104%	87-116%
17060-07-0	1,2-Dichloroethane-D4	111%	109%	101%	76-127%
2037-26-5	Toluene-D8	90%	91%	97%	86-112%
460-00-4	4-Bromofluorobenzene	95%	95%	106%	84-120%

GC/MS Semi-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: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	40%	14-62%
4165-62-2	Phenol-d5	26%	10-40%

Method Blank Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	73%	33-118%
4165-60-0	Nitrobenzene-d5	72%	42-108%
321-60-8	2-Fluorobiphenyl	73%	40-106%
1718-51-0	Terphenyl-d14	71%	39-121%

Method Blank Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	14-62%
4165-62-2	Phenol-d5	23%	10-40%

Method Blank Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	73%	33-118%
4165-60-0	Nitrobenzene-d5	60%	42-108%
321-60-8	2-Fluorobiphenyl	66%	40-106%
1718-51-0	Terphenyl-d14	59%	39-121%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
110-82-7	Cyclohexane	1.26	10	ug/l	JN
	Total TIC, Semi-Volatile		10	ug/l	J

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-57-8	2-Chlorophenol	50	38.8	78	44-103
59-50-7	4-Chloro-3-methyl phenol	50	41.1	82	53-105
120-83-2	2,4-Dichlorophenol	50	43.2	86	53-108
105-67-9	2,4-Dimethylphenol	50	30.9	62	37-91
51-28-5	2,4-Dinitrophenol	100	75.6	76	37-111
534-52-1	4,6-Dinitro-o-cresol	100	95.1	95	62-115
95-48-7	2-Methylphenol	50	31.4	63	35-91
	3&4-Methylphenol	100	56.8	57	32-85
88-75-5	2-Nitrophenol	50	43.8	88	49-111
100-02-7	4-Nitrophenol	100	28.5	29	13-55
87-86-5	Pentachlorophenol	100	85.9	86	57-118
108-95-2	Phenol	50	16.6	33	13-54
95-95-4	2,4,5-Trichlorophenol	50	42.1	84	59-106
88-06-2	2,4,6-Trichlorophenol	50	43.8	88	58-107
83-32-9	Acenaphthene	50	41.1	82	58-106
208-96-8	Acenaphthylene	50	39.9	80	58-105
120-12-7	Anthracene	50	39.2	78	65-108
92-87-5	Benzidine	50	23.4	47	15-73
56-55-3	Benzo(a)anthracene	50	42.0	84	63-111
50-32-8	Benzo(a)pyrene	50	41.4	83	62-106
205-99-2	Benzo(b)fluoranthene	50	43.4	87	63-109
191-24-2	Benzo(g,h,i)perylene	50	43.9	88	61-111
207-08-9	Benzo(k)fluoranthene	50	43.4	87	64-111
101-55-3	4-Bromophenyl phenyl ether	50	43.2	86	64-107
85-68-7	Butyl benzyl phthalate	50	43.8	88	59-114
100-51-6	Benzyl Alcohol	50	31.4	63	34-98
91-58-7	2-Chloronaphthalene	50	38.0	76	54-105
106-47-8	4-Chloroaniline	50	38.7	77	53-103
218-01-9	Chrysene	50	43.0	86	64-111
111-91-1	bis(2-Chloroethoxy)methane	50	42.7	85	48-101
111-44-4	bis(2-Chloroethyl)ether	50	41.3	83	51-108
108-60-1	bis(2-Chloroisopropyl)ether	50	41.9	84	43-106
7005-72-3	4-Chlorophenyl phenyl ether	50	42.5	85	61-107
95-50-1	1,2-Dichlorobenzene	50	30.2	60	41-102
541-73-1	1,3-Dichlorobenzene	50	28.8	58	38-100
106-46-7	1,4-Dichlorobenzene	50	29.2	58	40-100

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
121-14-2	2,4-Dinitrotoluene	50	40.0	80	60-109
606-20-2	2,6-Dinitrotoluene	50	39.5	79	58-104
91-94-1	3,3'-Dichlorobenzidine	50	40.7	81	57-105
53-70-3	Dibenzo(a,h)anthracene	50	43.2	86	62-112
132-64-9	Dibenzofuran	50	38.8	78	61-108
84-74-2	Di-n-butyl phthalate	50	43.0	86	62-109
117-84-0	Di-n-octyl phthalate	50	44.5	89	60-120
84-66-2	Diethyl phthalate	50	43.1	86	62-109
131-11-3	Dimethyl phthalate	50	43.1	86	63-106
117-81-7	bis(2-Ethylhexyl)phthalate	50	44.0	88	59-116
206-44-0	Fluoranthene	50	41.4	83	65-114
86-73-7	Fluorene	50	41.7	83	61-106
118-74-1	Hexachlorobenzene	50	40.2	80	62-107
87-68-3	Hexachlorobutadiene	50	29.8	60	38-107
77-47-4	Hexachlorocyclopentadiene	50	28.3	57	19-84
67-72-1	Hexachloroethane	50	26.7	53	35-101
193-39-5	Indeno(1,2,3-cd)pyrene	50	42.2	84	61-113
78-59-1	Isophorone	50	37.3	75	56-111
91-57-6	2-Methylnaphthalene	50	38.1	76	56-112
88-74-4	2-Nitroaniline	50	46.8	94	60-109
99-09-2	3-Nitroaniline	50	40.7	81	52-107
100-01-6	4-Nitroaniline	50	40.9	82	59-111
91-20-3	Naphthalene	50	35.6	71	50-104
98-95-3	Nitrobenzene	50	39.2	78	52-105
621-64-7	N-Nitroso-di-n-propylamine	50	38.1	76	51-104
86-30-6	N-Nitrosodiphenylamine	50	38.0	76	57-110
85-01-8	Phenanthrene	50	43.1	86	65-108
129-00-0	Pyrene	50	42.7	85	60-113
120-82-1	1,2,4-Trichlorobenzene	50	31.5	63	45-104

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	42%	14-62%
4165-62-2	Phenol-d5	27%	10-40%
118-79-6	2,4,6-Tribromophenol	78%	33-118%

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	78%	42-108%
321-60-8	2-Fluorobiphenyl	76%	40-106%
1718-51-0	Terphenyl-d14	74%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		96.2	80.0	83	76.9	80	4	44-103/29
59-50-7	4-Chloro-3-methyl phenol	ND		96.2	87.7	91	84.6	88	4	53-105/24
120-83-2	2,4-Dichlorophenol	ND		96.2	88.0	92	86.4	90	2	53-108/26
105-67-9	2,4-Dimethylphenol	ND		96.2	68.3	71	66.0	69	3	37-91/28
51-28-5	2,4-Dinitrophenol	ND		192	163	85	160	83	2	37-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		192	191	99	191	99	0	62-115/26
95-48-7	2-Methylphenol	ND		96.2	72.4	75	68.4	71	6	35-91/30
	3&4-Methylphenol	ND		192	146	76	135	70	8	32-85/29
88-75-5	2-Nitrophenol	ND		96.2	86.4	90	83.7	87	3	49-111/30
100-02-7	4-Nitrophenol	ND		192	110	57*	94.4	49	15	13-55/31
87-86-5	Pentachlorophenol	ND		192	172	89	176	92	2	57-118/26
108-95-2	Phenol	ND		96.2	55.7	58*	47.9	50	15	13-54/34
95-95-4	2,4,5-Trichlorophenol	ND		96.2	86.0	89	86.1	90	0	59-106/23
88-06-2	2,4,6-Trichlorophenol	ND		96.2	87.6	91	88.0	92	0	58-107/24
83-32-9	Acenaphthene	ND		96.2	85.1	89	84.2	88	1	58-106/21
208-96-8	Acenaphthylene	ND		96.2	82.1	85	81.7	85	0	58-105/21
120-12-7	Anthracene	ND		96.2	80.0	83	80.6	84	1	65-108/19
92-87-5	Benzidine	ND		96.2	ND	0*	ND	0*	nc	15-73/23
56-55-3	Benzo(a)anthracene	ND		96.2	85.9	89	87.1	91	1	63-111/19
50-32-8	Benzo(a)pyrene	ND		96.2	85.5	89	84.3	88	1	62-106/20
205-99-2	Benzo(b)fluoranthene	ND		96.2	90.3	94	87.1	91	4	63-109/20
191-24-2	Benzo(g,h,i)perylene	ND		96.2	89.8	93	90.4	94	1	61-111/21
207-08-9	Benzo(k)fluoranthene	ND		96.2	88.4	92	90.9	95	3	64-111/20
101-55-3	4-Bromophenyl phenyl ether	ND		96.2	89.0	93	91.2	95	2	64-107/20
85-68-7	Butyl benzyl phthalate	ND		96.2	90.6	94	89.5	93	1	59-114/20
100-51-6	Benzyl Alcohol	ND		96.2	76.5	80	70.7	74	8	34-98/27
91-58-7	2-Chloronaphthalene	ND		96.2	79.7	83	79.3	82	1	54-105/24
106-47-8	4-Chloroaniline	ND		96.2	73.9	77	69.9	73	6	53-103/22
218-01-9	Chrysene	ND		96.2	87.0	90	88.2	92	1	64-111/19
111-91-1	bis(2-Chloroethoxy)methane	ND		96.2	84.1	87	82.8	86	2	48-101/28
111-44-4	bis(2-Chloroethyl)ether	ND		96.2	80.7	84	79.6	83	1	51-108/27
108-60-1	bis(2-Chloroisopropyl)ether	ND		96.2	82.0	85	80.8	84	1	43-106/27
7005-72-3	4-Chlorophenyl phenyl ether	ND		96.2	87.8	91	87.6	91	0	61-107/20
95-50-1	1,2-Dichlorobenzene	ND		96.2	75.4	78	73.6	77	2	41-102/28
541-73-1	1,3-Dichlorobenzene	ND		96.2	74.1	77	72.3	75	2	38-100/28
106-46-7	1,4-Dichlorobenzene	ND		96.2	74.1	77	72.0	75	3	40-100/28

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	ND		96.2	81.9	85	80.0	83	2	60-109/20
606-20-2	2,6-Dinitrotoluene	ND		96.2	81.3	85	81.1	84	0	58-104/21
91-94-1	3,3'-Dichlorobenzidine	ND		96.2	67.9	71	66.6	69	2	57-105/25
53-70-3	Dibenzo(a,h)anthracene	ND		96.2	89.0	93	90.4	94	2	62-112/20
132-64-9	Dibenzofuran	ND		96.2	81.4	85	80.8	84	1	61-108/20
84-74-2	Di-n-butyl phthalate	ND		96.2	89.1	93	89.2	93	0	62-109/20
117-84-0	Di-n-octyl phthalate	ND		96.2	92.3	96	90.7	94	2	60-120/24
84-66-2	Diethyl phthalate	2.1	J	96.2	91.0	92	90.4	92	1	62-109/19
131-11-3	Dimethyl phthalate	ND		96.2	89.3	93	88.5	92	1	63-106/19
117-81-7	bis(2-Ethylhexyl)phthalate	ND		96.2	91.4	95	92.2	96	1	59-116/21
206-44-0	Fluoranthene	ND		96.2	85.2	89	86.6	90	2	65-114/21
86-73-7	Fluorene	ND		96.2	86.1	90	85.5	89	1	61-106/19
118-74-1	Hexachlorobenzene	ND		96.2	82.5	86	83.8	87	2	62-107/20
87-68-3	Hexachlorobutadiene	ND		96.2	76.9	80	76.6	80	0	38-107/30
77-47-4	Hexachlorocyclopentadiene	ND		96.2	63.6	66	64.0	67	1	19-84/35
67-72-1	Hexachloroethane	ND		96.2	71.7	75	70.9	74	1	35-101/29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		96.2	88.3	92	88.4	92	0	61-113/20
78-59-1	Isophorone	ND		96.2	73.7	77	72.6	76	2	56-111/26
91-57-6	2-Methylnaphthalene	ND		96.2	82.0	85	80.3	84	2	56-112/26
88-74-4	2-Nitroaniline	ND		96.2	95.4	99	94.5	98	1	60-109/20
99-09-2	3-Nitroaniline	ND		96.2	78.2	81	75.9	79	3	52-107/21
100-01-6	4-Nitroaniline	ND		96.2	80.7	84	79.5	83	1	59-111/21
91-20-3	Naphthalene	ND		96.2	79.1	82	77.2	80	2	50-104/28
98-95-3	Nitrobenzene	ND		96.2	77.9	81	76.5	80	2	52-105/28
621-64-7	N-Nitroso-di-n-propylamine	ND		96.2	75.5	79	71.9	75	5	51-104/28
86-30-6	N-Nitrosodiphenylamine	ND		96.2	77.4	80	77.8	81	1	57-110/19
85-01-8	Phenanthrene	ND		96.2	87.6	91	88.9	92	1	65-108/20
129-00-0	Pyrene	ND		96.2	86.0	89	87.6	91	2	60-113/20
120-82-1	1,2,4-Trichlorobenzene	ND		96.2	75.7	79	74.4	77	2	45-104/28

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
367-12-4	2-Fluorophenol	62%	57%	43%	14-62%
4165-62-2	Phenol-d5	51%*	43%*	28%	10-40%
118-79-6	2,4,6-Tribromophenol	81%	84%	81%	33-118%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66576-1, F66576-2

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
4165-60-0	Nitrobenzene-d5	77%	78%	74%	42-108%
321-60-8	2-Fluorobiphenyl	79%	79%	73%	40-106%
1718-51-0	Terphenyl-d14	77%	79%	75%	39-121%

GC 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: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3756-MB	CD089126.D	1	07/13/09	SL	n/a	n/a	GCD3756

The QC reported here applies to the following samples: **Method:** SW846 8015

F66576-1, F66576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	85%	57-129%
98-08-8	aaa-Trifluorotoluene	87%	58-120%

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3756-BS	CD089125.D	1	07/13/09	SL	n/a	n/a	GCD3756

The QC reported here applies to the following samples: **Method:** SW846 8015

F66576-1, F66576-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.374	94	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	104%	57-129%
98-08-8	aaa-Trifluorotoluene	106%	58-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66576-1MS	CD089133.D	1	07/13/09	SL	n/a	n/a	GCD3756
F66576-1MSD	CD089134.D	1	07/13/09	SL	n/a	n/a	GCD3756
F66576-1	CD089132.D	1	07/13/09	SL	n/a	n/a	GCD3756

The QC reported here applies to the following samples: **Method:** SW846 8015

F66576-1, F66576-2

CAS No.	Compound	F66576-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		0.4	0.374	94	0.378	95	1	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
460-00-4	4-Bromofluorobenzene	97%	97%	89%	57-129%
98-08-8	aaa-Trifluorotoluene	105%	118%	90%	58-120%

GC Semi-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: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-MB	XX046481.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66576-1, F66576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	112%	38-127%
2051-24-3	Decachlorobiphenyl	100%	25-137%

Method Blank Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-MB	LL26890.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66576-1, F66576-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	90%	42-114%

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-BS	XX046480.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66576-1, F66576-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	4	4.2	105	76-117
11096-82-5	Aroclor 1260	4	4.3	108	65-117

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	107%	38-127%
2051-24-3	Decachlorobiphenyl	100%	25-137%

Blank Spike Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-BS	LL26889.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66576-1, F66576-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C22)	1	0.824	82	60-140
	TPH (> C22-C36)	1	0.970	97	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	91%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-MS	XX046484.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
OP29621-MSD	XX046485.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
F66576-1	XX046483.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66576-1, F66576-2

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		7.69	7.2	94	7.1	92	1	76-117/16
11096-82-5	Aroclor 1260	ND		7.69	7.7	100	7.7	100	0	65-117/23

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
877-09-8	Tetrachloro-m-xylene	99%	97%	94%	38-127%
2051-24-3	Decachlorobiphenyl	100%	100%	94%	25-137%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66576
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-MS	LL26892.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
OP29609-MSD	LL26893.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
F66576-1	LL26891.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66576-1, F66576-2

CAS No.	Compound	F66576-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	ND		2.04	1.71	84	2.06	101	19	60-140/30
	TPH (> C22-C36)	ND		2.04	2.15	105	2.31	113	7	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
84-15-1	o-Terphenyl	89%	102%	92%	42-114%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	11	11	9.5	<200
Antimony	6.0	4.5	4.5	-0.97	<6.0
Arsenic	10	3.6	5.4	4.5	<10
Barium	200	5	5	-0.24	<200
Beryllium	4.0	1	1	0.31	<4.0
Cadmium	5.0	1	1	0.090	<5.0
Calcium	1000	100	100	-110	<1000
Chromium	10	1.6	2	0.42	<10
Cobalt	50	.83	1	0.30	<50
Copper	50	2.1	20	14.1	<50
Iron	300	23	23	7.4	<300
Lead	5.0	2	2	0.94	<5.0
Magnesium	5000	100	100	6.9	<5000
Manganese	15	.5	1	0.22	<15
Molybdenum	50	2.8	5		
Nickel	40	2.3	2.3	0.11	<40
Potassium	10000	100	100	238	<10000
Selenium	20	3.1	3.4	1.3	<20
Silver	10	1.2	1.4	0.30	<10
Sodium	10000	500	500	61.2	<10000
Thallium	10	3.4	3.6	-4.2	<10
Tin	50	2.8	2.8		
Vanadium	50	.66	.9	0.15	<50
Zinc	20	3.8	7.4	10.0	<20

Associated samples MP16681: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			07/15/09					07/15/09	
Metal	F66576-1 Original	DUP	RPD	QC Limits	F66576-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	26.2	31.2	17.4	0-20	26.2	28700	27000	106.2	80-120
Antimony	0.0	0.0 (a)	NC	0-20	0.0	556 (a)	500	111.2	80-120
Arsenic	15.1	15.2 (a)	52.3 (b)	0-20	15.1	2190 (a)	2000	109.1	80-120
Barium	34.6	35.9	3.7	0-20	34.6	2210	2000	108.8	80-120
Beryllium	0.0	0.0	NC	0-20	0.0	54.8	50	109.6	80-120
Cadmium	0.0	0.0	NC	0-20	0.0	53.0	50	106.0	80-120
Calcium	566000	623000	4.1	0-20	566000	611000	25000	52.0 (c)	80-120
Chromium	0.0	0.0	NC	0-20	0.0	216	200	108.0	80-120
Cobalt	0.0	0.0	NC	0-20	0.0	535	500	107.0	80-120
Copper	0.0	0.0	NC	0-20	0.0	282	250	112.8	80-120
Iron	0.0	0.0	NC	0-20	0.0	25800	26000	99.2	80-120
Lead	0.0	0.0 (a)	NC	0-20	0.0	547 (a)	500	109.4	80-120
Magnesium	18300	19000	3.8	0-20	18300	42400	25000	96.4	80-120
Manganese	44.4	45.9	3.3	0-20	44.4	588	500	108.7	80-120
Molybdenum									
Nickel	0.0	0.0	NC	0-20	0.0	544	500	108.8	80-120
Potassium	6820	7150	4.7	0-20	6820	38800	25000	127.9N(d	80-120
Selenium	7.1	16.6 (a)	1.8	0-20	7.1	2240 (a)	2000	111.2	80-120
Silver	0.0	0.0	NC	0-20	0.0	47.2	50	94.4	80-120
Sodium	13300	13900	4.4	0-20	13300	41100	25000	111.2	80-120
Thallium	0.0	0.0	NC	0-20	0.0	2110	2000	105.5	80-120
Tin									
Vanadium	61.6	64.2	4.1	0-20	61.6	586	500	104.9	80-120
Zinc	0.0	0.0	NC	0-20	0.0	534	500	106.8	80-120

Associated samples MP16681: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.
(b) RPD acceptable due to low duplicate and sample concentrations.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(d) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	27200	27000	100.7	80-120
Antimony	558	500	111.6	80-120
Arsenic	2160	2000	108.0	80-120
Barium	2230	2000	111.5	80-120
Beryllium	58.7	50	117.4	80-120
Cadmium	57.7	50	115.4	80-120
Calcium	27300	25000	109.2	80-120
Chromium	230	200	115.0	80-120
Cobalt	575	500	115.0	80-120
Copper	297	250	118.8	80-120
Iron	27300	26000	105.0	80-120
Lead	573	500	114.6	80-120
Magnesium	25700	25000	102.8	80-120
Manganese	578	500	115.6	80-120
Molybdenum				
Nickel	586	500	117.2	80-120
Potassium	25700	25000	102.8	80-120
Selenium	2180	2000	109.0	80-120
Silver	46.1	50	92.2	80-120
Sodium	25100	25000	100.4	80-120
Thallium	2240	2000	112.0	80-120
Tin				
Vanadium	547	500	109.4	80-120
Zinc	597	500	119.4	80-120

Associated samples MP16681: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	F66576-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	26.2	66.6	154.3(a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	15.1	0.00	100.0(a)	0-10
Barium	34.6	34.4	0.6	0-10
Beryllium	0.00	0.00	NC	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	566000	671000	12.2*(b)	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.00	0.00	NC	0-10
Iron	0.00	0.00	NC	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	18300	19700	7.6	0-10
Manganese	44.4	47.7	7.5	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Potassium	6820	6400	6.2	0-10
Selenium	7.06	0.00	100.0(a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium	13300	11200	15.5 (a)	0-10
Thallium	0.00	0.00	NC	0-10
Tin				
Vanadium	61.6	66.3	7.7	0-10
Zinc	0.00	0.00	NC	0-10

Associated samples MP16681: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	1.0	.14	.15	0.032	<1.0

Associated samples MP16684: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09 07/16/09

Metal	F66576-1 Original	DUP	RPD	QC Limits	F66576-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	3.0	3	100.0	80-120

Associated samples MP16684: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	F66576-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP16684: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.0	3	100.0	80-120

Associated samples MP16684: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	F66576-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16684: F66576-1, F66576-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.4

8

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: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN35824	100	0.0	mg/l				
Solids, Total Dissolved	GN35825	100	0.0	mg/l				

Associated Samples:
Batch GN35824: F66576-1
Batch GN35825: F66576-2
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F66576
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN35824	F66576-1	mg/l	5600	3900	35.8(a)	0-5%
Solids, Total Dissolved	GN35825	F66500-2	mg/l	6170	6480	4.9	0-5%

Associated Samples:
Batch GN35824: F66576-1
Batch GN35825: F66576-2
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/28/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66604

Sampling Dates: 07/09/09 - 07/10/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **92**

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

Client Service contact: Jean Dent-Smith 407-425-6700

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

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Accutest LabLink@92179 15:00 28-Jul-2009

Sample Summary

Nation View

Job No: F66604

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66604-1	07/09/09	14:05	CM	07/11/09	AQ	Ground Water	SWMU122-MW11
F66604-2	07/10/09	09:30	CM	07/11/09	AQ	Ground Water	SWMU122-MW11
F66604-3	07/09/09	14:50	CM	07/11/09	AQ	Ground Water	SWMU122-MW12
F66604-4	07/10/09	10:30	CM	07/11/09	AQ	Ground Water	SWMU122-MW12
F66604-5	07/10/09	09:30	CM	07/11/09	AQ	Trip Blank Water	TRIP BLANK 1
F66604-6	07/10/09	10:30	CM	07/11/09	AQ	Trip Blank Water	TRIP BLANK 2

Sample Results

Report of Analysis

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J048548.D	1	07/17/09	KW	n/a	n/a	VJ2899
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	16.0	25	10	ug/l	J
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	6.5	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	0.49	1.0	0.35	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	93%		76-127%
2037-26-5	Toluene-D8	100%		86-112%
460-00-4	4-Bromofluorobenzene	100%		84-120%

(a) 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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-1	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089180.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		57-129%
98-08-8	aaa-Trifluorotoluene	91%		58-120%

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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-2	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013336.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	24	9.5	ug/l	
95-57-8	2-Chlorophenol	ND	4.8	1.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.8	0.95	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.8	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.8	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	24	9.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.5	3.8	ug/l	
95-48-7	2-Methylphenol	ND	4.8	0.95	ug/l	
	3&4-Methylphenol	ND	4.8	0.95	ug/l	
88-75-5	2-Nitrophenol	ND	4.8	1.2	ug/l	
100-02-7	4-Nitrophenol	ND	24	9.5	ug/l	
87-86-5	Pentachlorophenol	ND	24	9.5	ug/l	
108-95-2	Phenol	ND	4.8	0.95	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.8	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.8	1.3	ug/l	
83-32-9	Acenaphthene	ND	4.8	0.95	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.95	ug/l	
120-12-7	Anthracene	ND	4.8	0.95	ug/l	
92-87-5	Benzidine	ND	24	9.5	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.95	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.95	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.95	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.95	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.95	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.8	0.95	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.8	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	4.8	0.95	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.8	0.95	ug/l	
106-47-8	4-Chloroaniline	ND	4.8	0.95	ug/l	
218-01-9	Chrysene	ND	4.8	0.95	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.8	0.95	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.8	0.95	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:	SWMU122-MW11		
Lab Sample ID:	F66604-2	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.8	0.95	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.8	0.95	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.8	0.95	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.8	0.95	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.8	0.95	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.8	0.95	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.8	0.95	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.5	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.95	ug/l	
132-64-9	Dibenzofuran	ND	4.8	0.95	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.8	0.95	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.8	1.4	ug/l	
84-66-2	Diethyl phthalate	ND	4.8	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.8	0.95	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	2.9	4.8	1.9	ug/l	J
206-44-0	Fluoranthene	ND	4.8	0.95	ug/l	
86-73-7	Fluorene	ND	4.8	0.95	ug/l	
118-74-1	Hexachlorobenzene	ND	4.8	0.95	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.8	2.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.8	1.2	ug/l	
67-72-1	Hexachloroethane	ND	4.8	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.0	ug/l	
78-59-1	Isophorone	ND	4.8	0.95	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.95	ug/l	
88-74-4	2-Nitroaniline	ND	9.5	1.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.5	1.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.5	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	0.95	ug/l	
98-95-3	Nitrobenzene	ND	4.8	0.95	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.8	0.95	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.95	ug/l	
129-00-0	Pyrene	ND	4.8	0.95	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.95	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	34%		14-62%
4165-62-2	Phenol-d5	26%		10-40%
118-79-6	2,4,6-Tribromophenol	75%		33-118%

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:	SWMU122-MW11		
Lab Sample ID:	F66604-2	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		42-108%
321-60-8	2-Fluorobiphenyl	67%		40-106%
1718-51-0	Terphenyl-d14	60%		39-121%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-2	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046490.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	75%		38-127%
2051-24-3	Decachlorobiphenyl	79%		25-137%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-2	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26897.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
Run #2							

	Initial Volume	Final Volume
Run #1	850 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	0.336	0.29	0.12	mg/l	
	TPH (> C22-C36)	0.298	0.29	0.12	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	87%		42-114%

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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-2	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	24.4 J	200	11	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Arsenic	6.9 J	10	5.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Barium	68.4 J	200	5.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Calcium	454000	1000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Chromium	2.0 U	10	2.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cobalt	2.7 J	50	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Copper [a]	26.4 J	50	20	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Iron	23 U	300	23	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Lead	2.0 U	5.0	2.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Magnesium	385000	5000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Manganese	616	15	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [2]	SW846 7470A [5]
Nickel	36.8 J	40	2.3	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Potassium	73000	10000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Selenium [b]	10.4 J	20	3.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Silver	1.4 J	10	1.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Sodium	1120000	200000	10000	ug/l	20	07/15/09	07/16/09	RS	SW846 6010B [3]	SW846 3010A [4]
Thallium	3.6 U	10	3.6	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Vanadium	10 J	50	0.90	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Zinc	73.4	20	7.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA7361
(2) Instrument QC Batch: MA7365
(3) Instrument QC Batch: MA7367
(4) Prep QC Batch: MP16681
(5) Prep QC Batch: MP16684

(a) Elevated RL/MDL due to positive bias of Method Blank.
(b) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW11		
Lab Sample ID:	F66604-2	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	9710	100	10	mg/l	1	07/15/09	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J048549.D	1	07/17/09	KW	n/a	n/a	VJ2899
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	10.9	25	10	ug/l	J
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	3.1	5.0	2.0	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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:	SWMU122-MW12		
Lab Sample ID:	F66604-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	94%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

(a) 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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089181.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	85%		57-129%
98-08-8	aaa-Trifluorotoluene	85%		58-120%

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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26898.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	0.356	0.25	0.10	mg/l	
	TPH (> C22-C36)	0.479	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		42-114%

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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-3	**Date Sampled:**	07/09/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	23000	100	10	mg/l	1	07/15/09	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-4	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U013337.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	24	9.5	ug/l	
95-57-8	2-Chlorophenol	ND	4.8	1.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.8	0.95	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.8	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.8	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	24	9.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.5	3.8	ug/l	
95-48-7	2-Methylphenol	ND	4.8	0.95	ug/l	
	3&4-Methylphenol	ND	4.8	0.95	ug/l	
88-75-5	2-Nitrophenol	ND	4.8	1.2	ug/l	
100-02-7	4-Nitrophenol	ND	24	9.5	ug/l	
87-86-5	Pentachlorophenol	ND	24	9.5	ug/l	
108-95-2	Phenol	ND	4.8	0.95	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.8	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.8	1.3	ug/l	
83-32-9	Acenaphthene	ND	4.8	0.95	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.95	ug/l	
120-12-7	Anthracene	ND	4.8	0.95	ug/l	
92-87-5	Benzidine	ND	24	9.5	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.95	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.95	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.95	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.95	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.95	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.8	0.95	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.8	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	4.8	0.95	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.8	0.95	ug/l	
106-47-8	4-Chloroaniline	ND	4.8	0.95	ug/l	
218-01-9	Chrysene	ND	4.8	0.95	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.8	0.95	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.8	0.95	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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-4	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.8	0.95	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.8	0.95	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.8	0.95	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.8	0.95	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.8	0.95	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.8	0.95	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.8	0.95	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.5	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.95	ug/l	
132-64-9	Dibenzofuran	ND	4.8	0.95	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.8	0.95	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.8	1.4	ug/l	
84-66-2	Diethyl phthalate	ND	4.8	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.8	0.95	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.95	ug/l	
86-73-7	Fluorene	ND	4.8	0.95	ug/l	
118-74-1	Hexachlorobenzene	ND	4.8	0.95	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.8	2.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.8	1.2	ug/l	
67-72-1	Hexachloroethane	ND	4.8	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.0	ug/l	
78-59-1	Isophorone	ND	4.8	0.95	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.95	ug/l	
88-74-4	2-Nitroaniline	ND	9.5	1.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.5	1.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.5	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	0.95	ug/l	
98-95-3	Nitrobenzene	ND	4.8	0.95	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.8	0.95	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.95	ug/l	
129-00-0	Pyrene	ND	4.8	0.95	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.95	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	36%		14-62%
4165-62-2	Phenol-d5	26%		10-40%
118-79-6	2,4,6-Tribromophenol	77%		33-118%

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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-4	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%		42-108%
321-60-8	2-Fluorobiphenyl	63%		40-106%
1718-51-0	Terphenyl-d14	67%		39-121%

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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-4	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046491.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.49	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.49	0.39	ug/l	
11141-16-5	Aroclor 1232	ND	0.49	0.39	ug/l	
53469-21-9	Aroclor 1242	ND	0.49	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.49	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.49	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.49	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	73%		38-127%
2051-24-3	Decachlorobiphenyl	49%		25-137%

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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW12		
Lab Sample ID:	F66604-4	**Date Sampled:**	07/10/09
Matrix:	AQ - Ground Water	**Date Received:**	07/11/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	20.8 J	200	11	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Arsenic	7.7 J	10	5.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Barium	49.7 J	200	5.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Calcium	430000	1000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Chromium	2.0 U	10	2.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cobalt	8.0 J	50	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Copper [a]	20 U	50	20	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Iron	13600	300	23	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Lead	2.0 U	5.0	2.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Magnesium	496000	5000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Manganese	624	15	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [2]	SW846 7470A [5]
Nickel	23.3 J	40	2.3	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Potassium	68600	10000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Selenium [b]	23.9	20	3.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Silver	1.4 U	10	1.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Sodium	3470000	500000	25000	ug/l	50	07/15/09	07/16/09	RS	SW846 6010B [3]	SW846 3010A [4]
Thallium	3.6 U	10	3.6	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Vanadium	2.8 J	50	0.90	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Zinc	22.0	20	7.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA7361
(2) Instrument QC Batch: MA7365
(3) Instrument QC Batch: MA7367
(4) Prep QC Batch: MP16681
(5) Prep QC Batch: MP16684

(a) Elevated RL/MDL due to positive bias of Method Blank.
(b) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK 1		
Lab Sample ID:	F66604-5	**Date Sampled:**	07/10/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J048481.D	1	07/15/09	JG	n/a	n/a	VJ2897
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	0.58	1.0	0.54	ug/l	J
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK 1		
Lab Sample ID:	F66604-5	**Date Sampled:**	07/10/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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 1		
Lab Sample ID:	F66604-5	**Date Sampled:**	07/10/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	100%		84-120%

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 LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK 2		
Lab Sample ID:	F66604-6	**Date Sampled:**	07/10/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J048482.D	1	07/15/09	JG	n/a	n/a	VJ2897
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK 2		
Lab Sample ID:	F66604-6	**Date Sampled:**	07/10/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK 2		
Lab Sample ID:	F66604-6	**Date Sampled:**	07/10/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/11/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	99%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	99%		84-120%

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:

- Certification Exceptions
- Chain of Custody

F66604

NATIONVIEW

PO#: 09-0112

Page: 1 of 1

NationView Project No: 8080014.02.020

COC Number[1]: 7/10/09

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122/123

Client Name: USACE

Collected by: Craig McGriff / Tony Lucero

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU 22-	MW11	9-July-2009	1405	-	N		WG	6	X		X											1
2	SWMU/22-	MW11	10-July-2009	0930	-	N		WG	5		X	X	X	X	X								1
3	SWMU/22-	MW12	9-July-2009	1450	-	N		WG	8	X		X			X								2
4	SWMU/22-	MW12	10-July-2009	1030		N		WG	3		X		X	X									2
5	Trip Blank	1	10-July-2009	0930		TB		WQ	2	X													1
6	Trip Blank	2	10-July-2009	1030	-	TB		WQ	2	X													2
					-																		
					-																		
					-																		
					-																		
					-																		

Sample Analysis Requested [5]

Quality Assurance Samples [6]

COMMENTS: * Due to slow recharge on wells MW11, MW12, limited samples were taken for SVOCs (8270C), PCBs (8082) and DRO-GRO (8015B).

Custody Transfers Prior to Receipt by Laboratory

Relinquished by (Signed)	Date	Time	Received by (signed)	Date	Time
1. Craig McGriff	7/10/09	1500	1. [illegible]		
2. [illegible]	7/11/09	9:30	2. Clark Accutest	7/11/09	9:30
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab:

Shipped No.:

Method of Shipment:

Airbill Number:

Analytical Lab:

Delivery Location:

Lab Recipient:

Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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 101099001 in the Equipment Blank Lot Control

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F66604: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66604 CLIENT: NAtionview PROJECT: Hollowman AFB

DATE/TIME RECEIVED: 7/11/09 9:30 # OF COOLERS RECEIVED: 2 COOLER TEMPS: 2.8 3.2

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

AIRBILL NUMBERS: 8696 4911 0900

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

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

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? 0

NUMBER OF 5035 FIELD KITS ? 0

NUMBER OF LAB FILTERED METALS ? 0

SUMMARY OF COMMENTS: Samples 2&3 only recieved 1 FL Pro Amber per sample

~~Sample #4 no water only received~~ EK

TECHNICIAN SIGNATURE/DATE [signature] 7/11/09 TECHNICIAN SIGNATURE/DATE [signature] 7-11-09

ASBD 12/17/07

F66604: 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: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2897-MB	J048473.D	1	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2897-MB	J048473.D	1	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2897-MB	J048473.D	1	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	87-116%
17060-07-0	1,2-Dichloroethane-D4	99%	76-127%
2037-26-5	Toluene-D8	99%	86-112%
460-00-4	4-Bromofluorobenzene	103%	84-120%

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2899-MB	J048532.D	1	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2899-MB	J048532.D	1	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.58	1.0	0.50	ug/l	J
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2899-MB	J048532.D	1	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	87-116%
17060-07-0	1,2-Dichloroethane-D4	94%	76-127%
2037-26-5	Toluene-D8	100%	86-112%
460-00-4	4-Bromofluorobenzene	103%	84-120%

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2897-BS	J048469.D	1	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	106	85	59-134
107-02-8	Acrolein	125	64.4	52	33-157
107-13-1	Acrylonitrile	125	256	205*	62-124
71-43-2	Benzene	25	28.6	114	83-124
108-86-1	Bromobenzene	25	24.4	98	83-115
74-97-5	Bromochloromethane	25	25.6	102	78-112
75-27-4	Bromodichloromethane	25	25.3	101	76-116
75-25-2	Bromoform	25	25.3	101	68-128
104-51-8	n-Butylbenzene	25	27.4	110	84-124
135-98-8	sec-Butylbenzene	25	26.9	108	86-127
98-06-6	tert-Butylbenzene	25	26.5	106	83-126
108-90-7	Chlorobenzene	25	25.9	104	87-115
75-00-3	Chloroethane	25	30.2	121	54-166
67-66-3	Chloroform	25	27.5	110	85-123
95-49-8	o-Chlorotoluene	25	25.7	103	84-121
106-43-4	p-Chlorotoluene	25	25.5	102	84-120
110-75-8	2-Chloroethyl vinyl ether	125	140	112	63-125
75-15-0	Carbon disulfide	25	28.9	116	67-147
56-23-5	Carbon tetrachloride	25	38.7	155*	74-139
75-34-3	1,1-Dichloroethane	25	29.5	118	82-127
75-35-4	1,1-Dichloroethylene	25	29.5	118	75-133
563-58-6	1,1-Dichloropropene	25	28.5	114	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	23.9	96	61-118
106-93-4	1,2-Dibromoethane	25	22.7	91	80-115
107-06-2	1,2-Dichloroethane	25	25.7	103	76-122
78-87-5	1,2-Dichloropropane	25	27.3	109	81-120
142-28-9	1,3-Dichloropropane	25	24.4	98	81-113
594-20-7	2,2-Dichloropropane	25	28.7	115	77-138
124-48-1	Dibromochloromethane	25	22.8	91	74-116
75-71-8	Dichlorodifluoromethane	25	25.8	103	34-158
156-59-2	cis-1,2-Dichloroethylene	25	26.5	106	81-114
10061-01-5	cis-1,3-Dichloropropene	25	27.0	108	83-119
541-73-1	m-Dichlorobenzene	25	25.1	100	86-115
95-50-1	o-Dichlorobenzene	25	25.4	102	85-115
106-46-7	p-Dichlorobenzene	25	25.3	101	87-113
156-60-5	trans-1,2-Dichloroethylene	25	28.7	115	82-126

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2897-BS	J048469.D	1	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	25	26.3	105	87-123
100-41-4	Ethylbenzene	25	26.8	107	87-118
591-78-6	2-Hexanone	125	124	99	58-125
87-68-3	Hexachlorobutadiene	25	26.9	108	71-133
110-54-3	Hexane	25	28.2	113	71-134
98-82-8	Isopropylbenzene	25	27.7	111	87-131
99-87-6	p-Isopropyltoluene	25	27.2	109	83-125
108-10-1	4-Methyl-2-pentanone	125	130	104	62-125
74-83-9	Methyl bromide	25	30.6	122	55-151
74-87-3	Methyl chloride	25	31.7	127	55-173
74-95-3	Methylene bromide	25	27.5	110	81-116
75-09-2	Methylene chloride	25	27.1	108	69-125
78-93-3	Methyl ethyl ketone	125	112	90	61-127
1634-04-4	Methyl Tert Butyl Ether	25	28.1	112	75-116
91-20-3	Naphthalene	25	24.5	98	59-125
103-65-1	n-Propylbenzene	25	26.4	106	86-125
100-42-5	Styrene	25	26.2	105	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	23.9	96	81-119
71-55-6	1,1,1-Trichloroethane	25	28.2	113	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	23.4	94	71-120
79-00-5	1,1,2-Trichloroethane	25	24.6	98	80-114
87-61-6	1,2,3-Trichlorobenzene	25	24.2	97	64-126
96-18-4	1,2,3-Trichloropropane	25	21.4	86	77-115
120-82-1	1,2,4-Trichlorobenzene	25	23.7	95	68-123
95-63-6	1,2,4-Trimethylbenzene	25	25.7	103	82-120
108-67-8	1,3,5-Trimethylbenzene	25	26.5	106	83-123
127-18-4	Tetrachloroethylene	25	31.7	127	80-131
108-88-3	Toluene	25	26.6	106	86-116
79-01-6	Trichloroethylene	25	27.5	110	85-124
75-69-4	Trichlorofluoromethane	25	31.7	127	66-156
75-01-4	Vinyl chloride	25	32.5	130	57-153
108-05-4	Vinyl Acetate	125	167	134	38-159
	m,p-Xylene	50	55.1	110	86-121
95-47-6	o-Xylene	25	26.5	106	83-121

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2897-BS	J048469.D	1	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	103%	76-127%
2037-26-5	Toluene-D8	96%	86-112%
460-00-4	4-Bromofluorobenzene	98%	84-120%

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2897-BS	J048472.D	1	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	100%	76-127%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	102%	84-120%

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2899-BS	J048531.D	1	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	91.4	73	59-134
107-02-8	Acrolein	125	67.1	54	33-157
107-13-1	Acrylonitrile	125	136	109	62-124
71-43-2	Benzene	25	28.3	113	83-124
108-86-1	Bromobenzene	25	25.6	102	83-115
74-97-5	Bromochloromethane	25	25.5	102	78-112
75-27-4	Bromodichloromethane	25	25.9	104	76-116
75-25-2	Bromoform	25	21.3	85	68-128
104-51-8	n-Butylbenzene	25	28.6	114	84-124
135-98-8	sec-Butylbenzene	25	28.3	113	86-127
98-06-6	tert-Butylbenzene	25	27.9	112	83-126
108-90-7	Chlorobenzene	25	26.3	105	87-115
75-00-3	Chloroethane	25	30.5	122	54-166
67-66-3	Chloroform	25	27.6	110	85-123
95-49-8	o-Chlorotoluene	25	26.8	107	84-121
106-43-4	p-Chlorotoluene	25	26.6	106	84-120
110-75-8	2-Chloroethyl vinyl ether	125	133	106	63-125
75-15-0	Carbon disulfide	25	29.3	117	67-147
56-23-5	Carbon tetrachloride	25	28.6	114	74-139
75-34-3	1,1-Dichloroethane	25	28.4	114	82-127
75-35-4	1,1-Dichloroethylene	25	29.7	119	75-133
563-58-6	1,1-Dichloropropene	25	28.1	112	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	22.7	91	61-118
106-93-4	1,2-Dibromoethane	25	24.2	97	80-115
107-06-2	1,2-Dichloroethane	25	24.7	99	76-122
78-87-5	1,2-Dichloropropane	25	26.4	106	81-120
142-28-9	1,3-Dichloropropane	25	24.2	97	81-113
594-20-7	2,2-Dichloropropane	25	29.4	118	77-138
124-48-1	Dibromochloromethane	25	24.6	98	74-116
75-71-8	Dichlorodifluoromethane	25	26.4	106	34-158
156-59-2	cis-1,2-Dichloroethylene	25	26.3	105	81-114
10061-01-5	cis-1,3-Dichloropropene	25	27.3	109	83-119
541-73-1	m-Dichlorobenzene	25	26.0	104	86-115
95-50-1	o-Dichlorobenzene	25	25.8	103	85-115
106-46-7	p-Dichlorobenzene	25	25.5	102	87-113
156-60-5	trans-1,2-Dichloroethylene	25	28.3	113	82-126

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2899-BS	J048531.D	1	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	25	28.3	113	87-123
100-41-4	Ethylbenzene	25	27.5	110	87-118
591-78-6	2-Hexanone	125	116	93	58-125
87-68-3	Hexachlorobutadiene	25	27.1	108	71-133
110-54-3	Hexane	25	29.6	118	71-134
98-82-8	Isopropylbenzene	25	29.2	117	87-131
99-87-6	p-Isopropyltoluene	25	28.7	115	83-125
108-10-1	4-Methyl-2-pentanone	125	125	100	62-125
74-83-9	Methyl bromide	25	27.9	112	55-151
74-87-3	Methyl chloride	25	30.5	122	55-173
74-95-3	Methylene bromide	25	26.4	106	81-116
75-09-2	Methylene chloride	25	26.5	106	69-125
78-93-3	Methyl ethyl ketone	125	101	81	61-127
1634-04-4	Methyl Tert Butyl Ether	25	25.9	104	75-116
91-20-3	Naphthalene	25	25.2	101	59-125
103-65-1	n-Propylbenzene	25	27.7	111	86-125
100-42-5	Styrene	25	27.0	108	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	25.8	103	81-119
71-55-6	1,1,1-Trichloroethane	25	28.9	116	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	24.3	97	71-120
79-00-5	1,1,2-Trichloroethane	25	24.4	98	80-114
87-61-6	1,2,3-Trichlorobenzene	25	24.8	99	64-126
96-18-4	1,2,3-Trichloropropane	25	21.0	84	77-115
120-82-1	1,2,4-Trichlorobenzene	25	25.8	103	68-123
95-63-6	1,2,4-Trimethylbenzene	25	26.8	107	82-120
108-67-8	1,3,5-Trimethylbenzene	25	27.5	110	83-123
127-18-4	Tetrachloroethylene	25	26.8	107	80-131
108-88-3	Toluene	25	27.2	109	86-116
79-01-6	Trichloroethylene	25	27.4	110	85-124
75-69-4	Trichlorofluoromethane	25	34.7	139	66-156
75-01-4	Vinyl chloride	25	32.4	130	57-153
108-05-4	Vinyl Acetate	125	138	110	38-159
	m,p-Xylene	50	56.8	114	86-121
95-47-6	o-Xylene	25	27.8	111	83-121

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ2899-BS	J048531.D	1	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	87-116%
17060-07-0	1,2-Dichloroethane-D4	97%	76-127%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	98%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66387-7MS	J048489.D	10	07/15/09	JG	n/a	n/a	VJ2897
F66387-7MSD	J048490.D	10	07/15/09	JG	n/a	n/a	VJ2897
F66387-7 [a]	J048478.D	10	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Compound	F66387-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		1250	876	70	891	71	2	59-134/14
107-02-8	Acrolein	ND		1250	693	55	565	45	20	33-157/21
107-13-1	Acrylonitrile	ND		1250	1410	113	1410	113	0	62-124/13
71-43-2	Benzene	ND		250	295	118	287	115	3	83-124/11
108-86-1	Bromobenzene	ND		250	237	95	226	90	5	83-115/10
74-97-5	Bromochloromethane	ND		250	252	101	242	97	4	78-112/10
75-27-4	Bromodichloromethane	2.7	J	250	251	99	248	98	1	76-116/10
75-25-2	Bromoform	ND		250	247	99	239	96	3	68-128/11
104-51-8	n-Butylbenzene	ND		250	269	108	259	104	4	84-124/10
135-98-8	sec-Butylbenzene	ND		250	267	107	259	104	3	86-127/10
98-06-6	tert-Butylbenzene	ND		250	258	103	249	100	4	83-126/10
108-90-7	Chlorobenzene	ND		250	260	104	250	100	4	87-115/9
75-00-3	Chloroethane	ND		250	305	122	318	127	4	54-166/20
67-66-3	Chloroform	17.4		250	285	107	277	104	3	85-123/10
95-49-8	o-Chlorotoluene	ND		250	258	103	247	99	4	84-121/10
106-43-4	p-Chlorotoluene	ND		250	247	99	239	96	3	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		1250	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		250	293	117	282	113	4	67-147/12
56-23-5	Carbon tetrachloride	ND		250	294	118	300	120	2	74-139/13
75-34-3	1,1-Dichloroethane	ND		250	300	120	291	116	3	82-127/10
75-35-4	1,1-Dichloroethylene	ND		250	298	119	303	121	2	75-133/13
563-58-6	1,1-Dichloropropene	ND		250	283	113	280	112	1	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		250	247	99	232	93	6	61-118/15
106-93-4	1,2-Dibromoethane	ND		250	219	88	218	87	0	80-115/10
107-06-2	1,2-Dichloroethane	ND		250	255	102	251	100	2	76-122/11
78-87-5	1,2-Dichloropropane	ND		250	283	113	275	110	3	81-120/11
142-28-9	1,3-Dichloropropane	ND		250	242	97	239	96	1	81-113/11
594-20-7	2,2-Dichloropropane	ND		250	245	98	248	99	1	77-138/12
124-48-1	Dibromochloromethane	ND		250	211	84	213	85	1	74-116/11
75-71-8	Dichlorodifluoromethane	ND		250	227	91	252	101	10	34-158/22
156-59-2	cis-1,2-Dichloroethylene	ND		250	249	100	252	101	1	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		250	257	103	253	101	2	83-119/10
541-73-1	m-Dichlorobenzene	ND		250	246	98	235	94	5	86-115/9
95-50-1	o-Dichlorobenzene	ND		250	247	99	240	96	3	85-115/9
106-46-7	p-Dichlorobenzene	ND		250	249	100	236	94	5	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		250	282	113	281	112	0	82-126/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66387-7MS	J048489.D	10	07/15/09	JG	n/a	n/a	VJ2897
F66387-7MSD	J048490.D	10	07/15/09	JG	n/a	n/a	VJ2897
F66387-7 [a]	J048478.D	10	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Compound	F66387-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		250	258	103	244	98	6	87-123/10
100-41-4	Ethylbenzene	8.3	J	250	275	107	264	102	4	87-118/10
591-78-6	2-Hexanone	ND		1250	1290	103	1250	100	3	58-125/14
87-68-3	Hexachlorobutadiene	ND		250	254	102	244	98	4	71-133/12
110-54-3	Hexane	ND		250	288	115	282	113	2	71-134/11
98-82-8	Isopropylbenzene	ND		250	281	112	262	105	7	87-131/10
99-87-6	p-Isopropyltoluene	ND		250	264	106	256	102	3	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		1250	1420	114	1390	111	2	62-125/13
74-83-9	Methyl bromide	ND		250	293	117	303	121	3	55-151/21
74-87-3	Methyl chloride	ND		250	315	126	332	133	5	55-173/22
74-95-3	Methylene bromide	ND		250	272	109	268	107	1	81-116/10
75-09-2	Methylene chloride	ND		250	280	112	266	106	5	69-125/11
78-93-3	Methyl ethyl ketone	ND		1250	1150	92	1120	90	3	61-127/13
1634-04-4	Methyl Tert Butyl Ether	ND		250	257	103	266	106	3	75-116/10
91-20-3	Naphthalene	252		250	481	92	481	92	0	59-125/15
103-65-1	n-Propylbenzene	4.4	J	250	270	106	257	101	5	86-125/10
100-42-5	Styrene	ND		250	272	109	254	102	7	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		250	232	93	226	90	3	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		250	266	106	267	107	0	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		250	240	96	237	95	1	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		250	249	100	242	97	3	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		250	246	98	238	95	3	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		250	205	82	205	82	0	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		250	242	97	229	92	6	68-123/11
95-63-6	1,2,4-Trimethylbenzene	62.4		250	304	97	292	92	4	82-120/10
108-67-8	1,3,5-Trimethylbenzene	11.6	J	250	268	103	262	100	2	83-123/10
127-18-4	Tetrachloroethylene	ND		250	254	102	241	96	5	80-131/12
108-88-3	Toluene	13.7		250	279	106	266	101	5	86-116/10
79-01-6	Trichloroethylene	ND		250	278	111	266	106	4	85-124/10
75-69-4	Trichlorofluoromethane	ND		250	316	126	320	128	1	66-156/15
75-01-4	Vinyl chloride	ND		250	317	127	335	134	6	57-153/22
108-05-4	Vinyl Acetate	ND		1250	1820	146	1780	142	2	38-159/11
	m,p-Xylene	37.0		500	597	112	563	105	6	86-121/10
95-47-6	o-Xylene	20.3		250	286	106	271	100	5	83-121/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66387-7MS	J048489.D	10	07/15/09	JG	n/a	n/a	VJ2897
F66387-7MSD	J048490.D	10	07/15/09	JG	n/a	n/a	VJ2897
F66387-7 [a]	J048478.D	10	07/15/09	JG	n/a	n/a	VJ2897

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

F66604-5, F66604-6

CAS No.	Surrogate Recoveries	MS	MSD	F66387-7	Limits
1868-53-7	Dibromofluoromethane	99%	100%	101%	87-116%
17060-07-0	1,2-Dichloroethane-D4	104%	103%	99%	76-127%
2037-26-5	Toluene-D8	95%	95%	98%	86-112%
460-00-4	4-Bromofluorobenzene	94%	96%	100%	84-120%

(a) Sample vial(s) contained significant headspace; reported results are considered minimum values.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66640-1MS	J048543.D	2	07/17/09	KW	n/a	n/a	VJ2899
F66640-1MSD	J048544.D	2	07/17/09	KW	n/a	n/a	VJ2899
F66640-1	J048542.D	2	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Compound	F66640-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50 U		250	162	65	159	64	2	59-134/14
107-02-8	Acrolein	40 U		250	107	43	101	40	6	33-157/21
107-13-1	Acrylonitrile	20 U		250	264	106	260	104	2	62-124/13
71-43-2	Benzene	2.0 U		50	55.4	111	51.6	103	7	83-124/11
108-86-1	Bromobenzene	2.0 U		50	48.2	96	44.6	89	8	83-115/10
74-97-5	Bromochloromethane	2.0 U		50	49.2	98	46.0	92	7	78-112/10
75-27-4	Bromodichloromethane	2.0 U		50	48.6	97	45.6	91	6	76-116/10
75-25-2	Bromoform	2.0 U		50	42.5	85	39.4	79	8	68-128/11
104-51-8	n-Butylbenzene	2.0 U		50	51.8	104	47.9	96	8	84-124/10
135-98-8	sec-Butylbenzene	2.0 U		50	52.5	105	49.7	99	5	86-127/10
98-06-6	tert-Butylbenzene	2.0 U		50	50.4	101	49.0	98	3	83-126/10
108-90-7	Chlorobenzene	2.0 U		50	50.8	102	46.7	93	8	87-115/9
75-00-3	Chloroethane	4.0 U		50	57.6	115	54.9	110	5	54-166/20
67-66-3	Chloroform	2.0 U		50	52.8	106	49.4	99	7	85-123/10
95-49-8	o-Chlorotoluene	2.0 U		50	49.8	100	47.5	95	5	84-121/10
106-43-4	p-Chlorotoluene	2.0 U		50	49.5	99	46.6	93	6	84-120/10
110-75-8	2-Chloroethyl vinyl ether	10 U		250	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	4.0 U		50	55.0	110	53.4	107	3	67-147/12
56-23-5	Carbon tetrachloride	2.0 U		50	53.7	107	53.5	107	0	74-139/13
75-34-3	1,1-Dichloroethane	2.0 U		50	55.2	110	52.0	104	6	82-127/10
75-35-4	1,1-Dichloroethylene	2.0 U		50	55.6	111	55.4	111	0	75-133/13
563-58-6	1,1-Dichloropropene	2.0 U		50	53.8	108	52.7	105	2	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	4.0 U		50	44.6	89	44.3	89	1	61-118/15
106-93-4	1,2-Dibromoethane	2.0 U		50	47.3	95	45.1	90	5	80-115/10
107-06-2	1,2-Dichloroethane	2.0 U		50	48.4	97	45.2	90	7	76-122/11
78-87-5	1,2-Dichloropropane	2.0 U		50	51.8	104	47.5	95	9	81-120/11
142-28-9	1,3-Dichloropropane	2.0 U		50	47.2	94	44.4	89	6	81-113/11
594-20-7	2,2-Dichloropropane	2.0 U		50	52.2	104	50.7	101	3	77-138/12
124-48-1	Dibromochloromethane	2.0 U		50	46.8	94	44.4	89	5	74-116/11
75-71-8	Dichlorodifluoromethane	4.0 U		50	43.0	86	47.7	95	10	34-158/22
156-59-2	cis-1,2-Dichloroethylene	203	E	50	233	60* [a]	217	28* [a]	7	81-114/10
10061-01-5	cis-1,3-Dichloropropene	2.0 U		50	50.4	101	47.6	95	6	83-119/10
541-73-1	m-Dichlorobenzene	2.0 U		50	48.4	97	45.3	91	7	86-115/9
95-50-1	o-Dichlorobenzene	2.0 U		50	48.1	96	45.4	91	6	85-115/9
106-46-7	p-Dichlorobenzene	2.0 U		50	47.5	95	44.8	90	6	87-113/10
156-60-5	trans-1,2-Dichloroethylene	6.5		50	59.5	106	56.3	100	6	82-126/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66640-1MS	J048543.D	2	07/17/09	KW	n/a	n/a	VJ2899
F66640-1MSD	J048544.D	2	07/17/09	KW	n/a	n/a	VJ2899
F66640-1	J048542.D	2	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Compound	F66640-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	2.0 U		50	52.9	106	49.2	98	7	87-123/10
100-41-4	Ethylbenzene	2.0 U		50	52.3	105	49.1	98	6	87-118/10
591-78-6	2-Hexanone	20 U		250	245	98	233	93	5	58-125/14
87-68-3	Hexachlorobutadiene	4.0 U		50	48.1	96	43.8	88	9	71-133/12
110-54-3	Hexane	4.0 U		50	54.6	109	56.5	113	3	71-134/11
98-82-8	Isopropylbenzene	2.0 U		50	55.8	112	51.0	102	9	87-131/10
99-87-6	p-Isopropyltoluene	2.0 U		50	51.6	103	49.4	99	4	83-125/9
108-10-1	4-Methyl-2-pentanone	10 U		250	277	111	264	106	5	62-125/13
74-83-9	Methyl bromide	4.0 U		50	51.1	102	49.3	99	4	55-151/21
74-87-3	Methyl chloride	4.0 U		50	56.0	112	56.6	113	1	55-173/22
74-95-3	Methylene bromide	4.0 U		50	52.0	104	49.7	99	5	81-116/10
75-09-2	Methylene chloride	2.5	J	50	52.0	99	48.6	92	7	69-125/11
78-93-3	Methyl ethyl ketone	10 U		250	205	82	199	80	3	61-127/13
1634-04-4	Methyl Tert Butyl Ether	2.0 U		50	50.7	101	49.7	99	2	75-116/10
91-20-3	Naphthalene	10 U		50	48.7	97	47.3	95	3	59-125/15
103-65-1	n-Propylbenzene	2.0 U		50	51.4	103	48.6	97	6	86-125/10
100-42-5	Styrene	2.0 U		50	51.9	104	47.5	95	9	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	2.0 U		50	49.0	98	45.8	92	7	81-119/10
71-55-6	1,1,1-Trichloroethane	2.0 U		50	54.5	109	52.9	106	3	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	2.0 U		50	47.3	95	46.3	93	2	71-120/11
79-00-5	1,1,2-Trichloroethane	2.0 U		50	46.6	93	44.3	89	5	80-114/11
87-61-6	1,2,3-Trichlorobenzene	2.0 U		50	46.2	92	43.9	88	5	64-126/16
96-18-4	1,2,3-Trichloropropane	4.0 U		50	39.8	80	40.0	80	1	77-115/12
120-82-1	1,2,4-Trichlorobenzene	2.0 U		50	46.9	94	43.9	88	7	68-123/11
95-63-6	1,2,4-Trimethylbenzene	4.0 U		50	49.7	99	46.8	94	6	82-120/10
108-67-8	1,3,5-Trimethylbenzene	4.0 U		50	50.9	102	48.0	96	6	83-123/10
127-18-4	Tetrachloroethylene	2.0 U		50	51.1	102	48.2	96	6	80-131/12
108-88-3	Toluene	2.0 U		50	52.1	104	48.4	97	7	86-116/10
79-01-6	Trichloroethylene	6.6		50	59.4	106	55.1	97	8	85-124/10
75-69-4	Trichlorofluoromethane	4.0 U		50	60.4	121	67.0	134	10	66-156/15
75-01-4	Vinyl chloride	9.4		50	65.2	112	67.4	116	3	57-153/22
108-05-4	Vinyl Acetate	20 U		250	275	110	260	104	6	38-159/11
	m,p-Xylene	4.0 U		100	110	110	101	101	9	86-121/10
95-47-6	o-Xylene	2.0 U		50	53.2	106	49.0	98	8	83-121/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66640-1MS	J048543.D	2	07/17/09	KW	n/a	n/a	VJ2899
F66640-1MSD	J048544.D	2	07/17/09	KW	n/a	n/a	VJ2899
F66640-1	J048542.D	2	07/17/09	KW	n/a	n/a	VJ2899

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

F66604-1, F66604-3

CAS No.	Surrogate Recoveries	MS	MSD	F66640-1	Limits
1868-53-7	Dibromofluoromethane	100%	101%	106%	87-116%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	97%	76-127%
2037-26-5	Toluene-D8	98%	97%	97%	86-112%
460-00-4	4-Bromofluorobenzene	97%	98%	101%	84-120%

(a) Outside control limits due to high level in sample relative to spike amount.

GC/MS Semi-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: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	40%	14-62%
4165-62-2	Phenol-d5	26%	10-40%

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	U013320.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	73%	33-118%
4165-60-0	Nitrobenzene-d5	72%	42-108%
321-60-8	2-Fluorobiphenyl	73%	40-106%
1718-51-0	Terphenyl-d14	71%	39-121%

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	14-62%
4165-62-2	Phenol-d5	23%	10-40%

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MB	L044561.D	1	07/20/09	RB	07/13/09	OP29591	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	73%	33-118%
4165-60-0	Nitrobenzene-d5	60%	42-108%
321-60-8	2-Fluorobiphenyl	66%	40-106%
1718-51-0	Terphenyl-d14	59%	39-121%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
110-82-7	Cyclohexane	1.26	10	ug/l	JN
	Total TIC, Semi-Volatile		10	ug/l	J

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-57-8	2-Chlorophenol	50	38.8	78	44-103
59-50-7	4-Chloro-3-methyl phenol	50	41.1	82	53-105
120-83-2	2,4-Dichlorophenol	50	43.2	86	53-108
105-67-9	2,4-Dimethylphenol	50	30.9	62	37-91
51-28-5	2,4-Dinitrophenol	100	75.6	76	37-111
534-52-1	4,6-Dinitro-o-cresol	100	95.1	95	62-115
95-48-7	2-Methylphenol	50	31.4	63	35-91
	3&4-Methylphenol	100	56.8	57	32-85
88-75-5	2-Nitrophenol	50	43.8	88	49-111
100-02-7	4-Nitrophenol	100	28.5	29	13-55
87-86-5	Pentachlorophenol	100	85.9	86	57-118
108-95-2	Phenol	50	16.6	33	13-54
95-95-4	2,4,5-Trichlorophenol	50	42.1	84	59-106
88-06-2	2,4,6-Trichlorophenol	50	43.8	88	58-107
83-32-9	Acenaphthene	50	41.1	82	58-106
208-96-8	Acenaphthylene	50	39.9	80	58-105
120-12-7	Anthracene	50	39.2	78	65-108
92-87-5	Benzidine	50	23.4	47	15-73
56-55-3	Benzo(a)anthracene	50	42.0	84	63-111
50-32-8	Benzo(a)pyrene	50	41.4	83	62-106
205-99-2	Benzo(b)fluoranthene	50	43.4	87	63-109
191-24-2	Benzo(g,h,i)perylene	50	43.9	88	61-111
207-08-9	Benzo(k)fluoranthene	50	43.4	87	64-111
101-55-3	4-Bromophenyl phenyl ether	50	43.2	86	64-107
85-68-7	Butyl benzyl phthalate	50	43.8	88	59-114
100-51-6	Benzyl Alcohol	50	31.4	63	34-98
91-58-7	2-Chloronaphthalene	50	38.0	76	54-105
106-47-8	4-Chloroaniline	50	38.7	77	53-103
218-01-9	Chrysene	50	43.0	86	64-111
111-91-1	bis(2-Chloroethoxy)methane	50	42.7	85	48-101
111-44-4	bis(2-Chloroethyl)ether	50	41.3	83	51-108
108-60-1	bis(2-Chloroisopropyl)ether	50	41.9	84	43-106
7005-72-3	4-Chlorophenyl phenyl ether	50	42.5	85	61-107
95-50-1	1,2-Dichlorobenzene	50	30.2	60	41-102
541-73-1	1,3-Dichlorobenzene	50	28.8	58	38-100
106-46-7	1,4-Dichlorobenzene	50	29.2	58	40-100

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
121-14-2	2,4-Dinitrotoluene	50	40.0	80	60-109
606-20-2	2,6-Dinitrotoluene	50	39.5	79	58-104
91-94-1	3,3'-Dichlorobenzidine	50	40.7	81	57-105
53-70-3	Dibenzo(a,h)anthracene	50	43.2	86	62-112
132-64-9	Dibenzofuran	50	38.8	78	61-108
84-74-2	Di-n-butyl phthalate	50	43.0	86	62-109
117-84-0	Di-n-octyl phthalate	50	44.5	89	60-120
84-66-2	Diethyl phthalate	50	43.1	86	62-109
131-11-3	Dimethyl phthalate	50	43.1	86	63-106
117-81-7	bis(2-Ethylhexyl)phthalate	50	44.0	88	59-116
206-44-0	Fluoranthene	50	41.4	83	65-114
86-73-7	Fluorene	50	41.7	83	61-106
118-74-1	Hexachlorobenzene	50	40.2	80	62-107
87-68-3	Hexachlorobutadiene	50	29.8	60	38-107
77-47-4	Hexachlorocyclopentadiene	50	28.3	57	19-84
67-72-1	Hexachloroethane	50	26.7	53	35-101
193-39-5	Indeno(1,2,3-cd)pyrene	50	42.2	84	61-113
78-59-1	Isophorone	50	37.3	75	56-111
91-57-6	2-Methylnaphthalene	50	38.1	76	56-112
88-74-4	2-Nitroaniline	50	46.8	94	60-109
99-09-2	3-Nitroaniline	50	40.7	81	52-107
100-01-6	4-Nitroaniline	50	40.9	82	59-111
91-20-3	Naphthalene	50	35.6	71	50-104
98-95-3	Nitrobenzene	50	39.2	78	52-105
621-64-7	N-Nitroso-di-n-propylamine	50	38.1	76	51-104
86-30-6	N-Nitrosodiphenylamine	50	38.0	76	57-110
85-01-8	Phenanthrene	50	43.1	86	65-108
129-00-0	Pyrene	50	42.7	85	60-113
120-82-1	1,2,4-Trichlorobenzene	50	31.5	63	45-104

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	42%	14-62%
4165-62-2	Phenol-d5	27%	10-40%
118-79-6	2,4,6-Tribromophenol	78%	33-118%

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-BS	U013319.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	78%	42-108%
321-60-8	2-Fluorobiphenyl	76%	40-106%
1718-51-0	Terphenyl-d14	74%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		96.2	80.0	83	76.9	80	4	44-103/29
59-50-7	4-Chloro-3-methyl phenol	ND		96.2	87.7	91	84.6	88	4	53-105/24
120-83-2	2,4-Dichlorophenol	ND		96.2	88.0	92	86.4	90	2	53-108/26
105-67-9	2,4-Dimethylphenol	ND		96.2	68.3	71	66.0	69	3	37-91/28
51-28-5	2,4-Dinitrophenol	ND		192	163	85	160	83	2	37-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		192	191	99	191	99	0	62-115/26
95-48-7	2-Methylphenol	ND		96.2	72.4	75	68.4	71	6	35-91/30
	3&4-Methylphenol	ND		192	146	76	135	70	8	32-85/29
88-75-5	2-Nitrophenol	ND		96.2	86.4	90	83.7	87	3	49-111/30
100-02-7	4-Nitrophenol	ND		192	110	57*	94.4	49	15	13-55/31
87-86-5	Pentachlorophenol	ND		192	172	89	176	92	2	57-118/26
108-95-2	Phenol	ND		96.2	55.7	58*	47.9	50	15	13-54/34
95-95-4	2,4,5-Trichlorophenol	ND		96.2	86.0	89	86.1	90	0	59-106/23
88-06-2	2,4,6-Trichlorophenol	ND		96.2	87.6	91	88.0	92	0	58-107/24
83-32-9	Acenaphthene	ND		96.2	85.1	89	84.2	88	1	58-106/21
208-96-8	Acenaphthylene	ND		96.2	82.1	85	81.7	85	0	58-105/21
120-12-7	Anthracene	ND		96.2	80.0	83	80.6	84	1	65-108/19
92-87-5	Benzidine	ND		96.2	ND	0*	ND	0*	nc	15-73/23
56-55-3	Benzo(a)anthracene	ND		96.2	85.9	89	87.1	91	1	63-111/19
50-32-8	Benzo(a)pyrene	ND		96.2	85.5	89	84.3	88	1	62-106/20
205-99-2	Benzo(b)fluoranthene	ND		96.2	90.3	94	87.1	91	4	63-109/20
191-24-2	Benzo(g,h,i)perylene	ND		96.2	89.8	93	90.4	94	1	61-111/21
207-08-9	Benzo(k)fluoranthene	ND		96.2	88.4	92	90.9	95	3	64-111/20
101-55-3	4-Bromophenyl phenyl ether	ND		96.2	89.0	93	91.2	95	2	64-107/20
85-68-7	Butyl benzyl phthalate	ND		96.2	90.6	94	89.5	93	1	59-114/20
100-51-6	Benzyl Alcohol	ND		96.2	76.5	80	70.7	74	8	34-98/27
91-58-7	2-Chloronaphthalene	ND		96.2	79.7	83	79.3	82	1	54-105/24
106-47-8	4-Chloroaniline	ND		96.2	73.9	77	69.9	73	6	53-103/22
218-01-9	Chrysene	ND		96.2	87.0	90	88.2	92	1	64-111/19
111-91-1	bis(2-Chloroethoxy)methane	ND		96.2	84.1	87	82.8	86	2	48-101/28
111-44-4	bis(2-Chloroethyl)ether	ND		96.2	80.7	84	79.6	83	1	51-108/27
108-60-1	bis(2-Chloroisopropyl)ether	ND		96.2	82.0	85	80.8	84	1	43-106/27
7005-72-3	4-Chlorophenyl phenyl ether	ND		96.2	87.8	91	87.6	91	0	61-107/20
95-50-1	1,2-Dichlorobenzene	ND		96.2	75.4	78	73.6	77	2	41-102/28
541-73-1	1,3-Dichlorobenzene	ND		96.2	74.1	77	72.3	75	2	38-100/28
106-46-7	1,4-Dichlorobenzene	ND		96.2	74.1	77	72.0	75	3	40-100/28

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	ND		96.2	81.9	85	80.0	83	2	60-109/20
606-20-2	2,6-Dinitrotoluene	ND		96.2	81.3	85	81.1	84	0	58-104/21
91-94-1	3,3'-Dichlorobenzidine	ND		96.2	67.9	71	66.6	69	2	57-105/25
53-70-3	Dibenzo(a,h)anthracene	ND		96.2	89.0	93	90.4	94	2	62-112/20
132-64-9	Dibenzofuran	ND		96.2	81.4	85	80.8	84	1	61-108/20
84-74-2	Di-n-butyl phthalate	ND		96.2	89.1	93	89.2	93	0	62-109/20
117-84-0	Di-n-octyl phthalate	ND		96.2	92.3	96	90.7	94	2	60-120/24
84-66-2	Diethyl phthalate	2.1	J	96.2	91.0	92	90.4	92	1	62-109/19
131-11-3	Dimethyl phthalate	ND		96.2	89.3	93	88.5	92	1	63-106/19
117-81-7	bis(2-Ethylhexyl)phthalate	ND		96.2	91.4	95	92.2	96	1	59-116/21
206-44-0	Fluoranthene	ND		96.2	85.2	89	86.6	90	2	65-114/21
86-73-7	Fluorene	ND		96.2	86.1	90	85.5	89	1	61-106/19
118-74-1	Hexachlorobenzene	ND		96.2	82.5	86	83.8	87	2	62-107/20
87-68-3	Hexachlorobutadiene	ND		96.2	76.9	80	76.6	80	0	38-107/30
77-47-4	Hexachlorocyclopentadiene	ND		96.2	63.6	66	64.0	67	1	19-84/35
67-72-1	Hexachloroethane	ND		96.2	71.7	75	70.9	74	1	35-101/29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		96.2	88.3	92	88.4	92	0	61-113/20
78-59-1	Isophorone	ND		96.2	73.7	77	72.6	76	2	56-111/26
91-57-6	2-Methylnaphthalene	ND		96.2	82.0	85	80.3	84	2	56-112/26
88-74-4	2-Nitroaniline	ND		96.2	95.4	99	94.5	98	1	60-109/20
99-09-2	3-Nitroaniline	ND		96.2	78.2	81	75.9	79	3	52-107/21
100-01-6	4-Nitroaniline	ND		96.2	80.7	84	79.5	83	1	59-111/21
91-20-3	Naphthalene	ND		96.2	79.1	82	77.2	80	2	50-104/28
98-95-3	Nitrobenzene	ND		96.2	77.9	81	76.5	80	2	52-105/28
621-64-7	N-Nitroso-di-n-propylamine	ND		96.2	75.5	79	71.9	75	5	51-104/28
86-30-6	N-Nitrosodiphenylamine	ND		96.2	77.4	80	77.8	81	1	57-110/19
85-01-8	Phenanthrene	ND		96.2	87.6	91	88.9	92	1	65-108/20
129-00-0	Pyrene	ND		96.2	86.0	89	87.6	91	2	60-113/20
120-82-1	1,2,4-Trichlorobenzene	ND		96.2	75.7	79	74.4	77	2	45-104/28

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
367-12-4	2-Fluorophenol	62%	57%	43%	14-62%
4165-62-2	Phenol-d5	51%*	43%*	28%	10-40%
118-79-6	2,4,6-Tribromophenol	81%	84%	81%	33-118%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29591-MS	U013333.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
OP29591-MSD	U013334.D	1	07/14/09	NAF	07/13/09	OP29591	SU643
F66576-1	U013332.D	1	07/14/09	NAF	07/13/09	OP29591	SU643

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66604-2, F66604-4

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
4165-60-0	Nitrobenzene-d5	77%	78%	74%	42-108%
321-60-8	2-Fluorobiphenyl	79%	79%	73%	40-106%
1718-51-0	Terphenyl-d14	77%	79%	75%	39-121%

GC 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: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3759-MB	CD089179.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66604-1, F66604-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	82%	57-129%
98-08-8	aaa-Trifluorotoluene	85%	58-120%

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3759-BS	CD089178.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66604-1, F66604-3

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.346	87	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	57-129%
98-08-8	aaa-Trifluorotoluene	114%	58-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66619-1MS	CD089186.D	1	07/16/09	SL	n/a	n/a	GCD3759
F66619-1MSD	CD089187.D	1	07/16/09	SL	n/a	n/a	GCD3759
F66619-1	CD089182.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66604-1, F66604-3

CAS No.	Compound	F66619-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		0.4	0.432	108	0.354	89	20*	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F66619-1	Limits
460-00-4	4-Bromofluorobenzene	102%	95%	84%	57-129%
98-08-8	aaa-Trifluorotoluene	111%	100%	86%	58-120%

GC Semi-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: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-MB	XX046481.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66604-2, F66604-4

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	112%	38-127%
2051-24-3	Decachlorobiphenyl	100%	25-137%

Method Blank Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-MB	LL26890.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66604-2, F66604-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	90%	42-114%

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-BS	XX046480.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66604-2, F66604-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	4	4.2	105	76-117
11096-82-5	Aroclor 1260	4	4.3	108	65-117

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	107%	38-127%
2051-24-3	Decachlorobiphenyl	100%	25-137%

Blank Spike Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-BS	LL26889.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66604-2, F66604-3

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C22)	1	0.824	82	60-140
	TPH (> C22-C36)	1	0.970	97	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	91%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-MS	XX046484.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
OP29621-MSD	XX046485.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
F66576-1	XX046483.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66604-2, F66604-4

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		7.69	7.2	94	7.1	92	1	76-117/16
11096-82-5	Aroclor 1260	ND		7.69	7.7	100	7.7	100	0	65-117/23

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
877-09-8	Tetrachloro-m-xylene	99%	97%	94%	38-127%
2051-24-3	Decachlorobiphenyl	100%	100%	94%	25-137%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66604
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-MS	LL26892.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
OP29609-MSD	LL26893.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
F66576-1	LL26891.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66604-2, F66604-3

CAS No.	Compound	F66576-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	ND		2.04	1.71	84	2.06	101	19	60-140/30
	TPH (> C22-C36)	ND		2.04	2.15	105	2.31	113	7	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
84-15-1	o-Terphenyl	89%	102%	92%	42-114%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	11	11	9.5	<200
Antimony	6.0	4.5	4.5	-0.97	<6.0
Arsenic	10	3.6	5.4	4.5	<10
Barium	200	5	5	-0.24	<200
Beryllium	4.0	1	1	0.31	<4.0
Cadmium	5.0	1	1	0.090	<5.0
Calcium	1000	100	100	-110	<1000
Chromium	10	1.6	2	0.42	<10
Cobalt	50	.83	1	0.30	<50
Copper	50	2.1	20	14.1	<50
Iron	300	23	23	7.4	<300
Lead	5.0	2	2	0.94	<5.0
Magnesium	5000	100	100	6.9	<5000
Manganese	15	.5	1	0.22	<15
Molybdenum	50	2.8	5		
Nickel	40	2.3	2.3	0.11	<40
Potassium	10000	100	100	238	<10000
Selenium	20	3.1	3.4	1.3	<20
Silver	10	1.2	1.4	0.30	<10
Sodium	10000	500	500	61.2	<10000
Thallium	10	3.4	3.6	-4.2	<10
Tin	50	2.8	2.8		
Vanadium	50	.66	.9	0.15	<50
Zinc	20	3.8	7.4	10.0	<20

Associated samples MP16681: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			07/15/09					07/15/09	
Metal	F66576-1 Original	DUP	RPD	QC Limits	F66576-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	26.2	31.2	17.4	0-20	26.2	28700	27000	106.2	80-120
Antimony	0.0	0.0 (a)	NC	0-20	0.0	556 (a)	500	111.2	80-120
Arsenic	15.1	15.2 (a)	52.3 (b)	0-20	15.1	2190 (a)	2000	109.1	80-120
Barium	34.6	35.9	3.7	0-20	34.6	2210	2000	108.8	80-120
Beryllium	0.0	0.0	NC	0-20	0.0	54.8	50	109.6	80-120
Cadmium	0.0	0.0	NC	0-20	0.0	53.0	50	106.0	80-120
Calcium	566000	623000	4.1	0-20	566000	611000	25000	52.0 (c)	80-120
Chromium	0.0	0.0	NC	0-20	0.0	216	200	108.0	80-120
Cobalt	0.0	0.0	NC	0-20	0.0	535	500	107.0	80-120
Copper	0.0	0.0	NC	0-20	0.0	282	250	112.8	80-120
Iron	0.0	0.0	NC	0-20	0.0	25800	26000	99.2	80-120
Lead	0.0	0.0 (a)	NC	0-20	0.0	547 (a)	500	109.4	80-120
Magnesium	18300	19000	3.8	0-20	18300	42400	25000	96.4	80-120
Manganese	44.4	45.9	3.3	0-20	44.4	588	500	108.7	80-120
Molybdenum									
Nickel	0.0	0.0	NC	0-20	0.0	544	500	108.8	80-120
Potassium	6820	7150	4.7	0-20	6820	38800	25000	127.9N(d	80-120
Selenium	7.1	16.6 (a)	1.8	0-20	7.1	2240 (a)	2000	111.2	80-120
Silver	0.0	0.0	NC	0-20	0.0	47.2	50	94.4	80-120
Sodium	13300	13900	4.4	0-20	13300	41100	25000	111.2	80-120
Thallium	0.0	0.0	NC	0-20	0.0	2110	2000	105.5	80-120
Tin									
Vanadium	61.6	64.2	4.1	0-20	61.6	586	500	104.9	80-120
Zinc	0.0	0.0	NC	0-20	0.0	534	500	106.8	80-120

Associated samples MP16681: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.
(b) RPD acceptable due to low duplicate and sample concentrations.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(d) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	27200	27000	100.7	80-120
Antimony	558	500	111.6	80-120
Arsenic	2160	2000	108.0	80-120
Barium	2230	2000	111.5	80-120
Beryllium	58.7	50	117.4	80-120
Cadmium	57.7	50	115.4	80-120
Calcium	27300	25000	109.2	80-120
Chromium	230	200	115.0	80-120
Cobalt	575	500	115.0	80-120
Copper	297	250	118.8	80-120
Iron	27300	26000	105.0	80-120
Lead	573	500	114.6	80-120
Magnesium	25700	25000	102.8	80-120
Manganese	578	500	115.6	80-120
Molybdenum				
Nickel	586	500	117.2	80-120
Potassium	25700	25000	102.8	80-120
Selenium	2180	2000	109.0	80-120
Silver	46.1	50	92.2	80-120
Sodium	25100	25000	100.4	80-120
Thallium	2240	2000	112.0	80-120
Tin				
Vanadium	547	500	109.4	80-120
Zinc	597	500	119.4	80-120

Associated samples MP16681: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	F66576-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	26.2	66.6	154.3(a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	15.1	0.00	100.0(a)	0-10
Barium	34.6	34.4	0.6	0-10
Beryllium	0.00	0.00	NC	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	566000	671000	12.2*(b)	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.00	0.00	NC	0-10
Iron	0.00	0.00	NC	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	18300	19700	7.6	0-10
Manganese	44.4	47.7	7.5	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Potassium	6820	6400	6.2	0-10
Selenium	7.06	0.00	100.0(a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium	13300	11200	15.5 (a)	0-10
Thallium	0.00	0.00	NC	0-10
Tin				
Vanadium	61.6	66.3	7.7	0-10
Zinc	0.00	0.00	NC	0-10

Associated samples MP16681: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	1.0	.14	.15	0.032	<1.0

Associated samples MP16684: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.1
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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09 07/16/09

Metal	F66576-1 Original	DUP	RPD	QC Limits	F66576-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	3.0	3	100.0	80-120

Associated samples MP16684: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.2.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 07/16/09

Metal	F66576-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	0.0	20

Associated samples MP16684: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.0	3	100.0	80-120

Associated samples MP16684: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16684
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	F66576-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16684: F66604-2, F66604-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.4

8

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: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN35825	100	0.0	mg/l				

Associated Samples:
Batch GN35825: F66604-2, F66604-3
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F66604
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN35825	F66500-2	mg/l	6170	6480	4.9	0-5%

Associated Samples:
Batch GN35825: F66604-2, F66604-3
(*) Outside of QC limits

9.2
9

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/28/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66618

Sampling Date: 07/09/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **12**

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

Client Service contact: Jean Dent-Smith 407-425-6700

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

Nation View

Job No: F66618

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66618-1	07/09/09	11:40	ZB	07/14/09	SO	Soil	SWMU122-DP05-4
F66618-2	07/09/09	11:45	ZB	07/14/09	SO	Soil	SWMU122-DP05-8

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

Sample Results

Report of Analysis

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-DP05-4		
Lab Sample ID:	F66618-1	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/14/09
		Percent Solids:	84.0
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	1.0			g/ml	1	07/22/09	LE	ASTM D2937-94 M
Fractional Organic Carbon	6.4	0.01	0.01	%	1	07/22/09 14:45	LE	ASTM D2974-87
Solids, Percent	84			%	1	07/20/09	SD	SM19 2540B M
Specific Gravity	1.5				1	07/22/09	LE	ASTM 1429

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 15:00 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-DP05-8		
Lab Sample ID:	F66618-2	**Date Sampled:**	07/09/09
Matrix:	SO - Soil	**Date Received:**	07/14/09
		Percent Solids:	89.5
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Bulk Density (Dry Basis)	1.2			g/ml	1	07/22/09	LE	ASTM D2937-94 M
Fractional Organic Carbon	6.2	0.01	0.01	%	1	07/22/09 14:45	LE	ASTM D2974-87
Solids, Percent	89.5			%	1	07/20/09	SD	SM19 2540B M
Specific Gravity	1.6				1	07/22/09	LE	ASTM 1429

RL = Reporting Limit
MDL = Method Detection Limit

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

F66618

NATIONVIEW

PO #: 09-0112

Page: 1 of 1

NationView Project No: 8080014.02.020

COC Number[1]: 7-13-09 (3)

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Hollomon AFB

Project/Site Name: SWMU 122/123

Client Name: USACE

Collected by: Zack Beck, Dustin McNeil

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU122-D	P05-4	09-July-2009	1140	0 - 4	N		SO	1							X	X	X	X				4
2	SWMU122-D	P05-8	09-July-2009	1145	4 - 8	N		SO	1							X	X	X	X				4

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	[signature]	7/13/09	1500	FX		
2.	FX	7/14/09	9:00	[signature] Accutest	7/14/09	9:00
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab:
Shipped No.:
Method of Shipment:
Airbill Number:
Analytical Lab:
Delivery Location:
Lab Recipient:
Delivery Date/Time:

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

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 (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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

4.2

F66618: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66618 CLIENT: Nationview PROJECT: Hollowman AFB

DATE/TIME RECEIVED: 7/14/09 9:30 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 4.2

METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8696 4911 0874

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

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

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] 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 NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? 0

NUMBER OF 5035 FIELD KITS ? 0

NUMBER OF LAB FILTERED METALS ? 0

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE CLR 7/14/09 TECHNICIAN SIGNATURE/DATE JC 7-14-09

ASBD 12/17/07

F66618: Chain of Custody
Page 2 of 2

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: F66618
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Bulk Density (Dry Basis)	GN35943		0.0	g/ml				
Fractional Organic Carbon	GN35942	0.01	0.0	%				
Specific Gravity	GN35944		1.0					

Associated Samples:
Batch GN35942: F66618-1, F66618-2
Batch GN35943: F66618-1, F66618-2
Batch GN35944: F66618-1, F66618-2
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F66618
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Bulk Density (Dry Basis)	GN35943	F66618-2	g/ml	1.2	1.2	0.0	0-20%
Fractional Organic Carbon	GN35942	F66618-1	%	6.4	6.8	7.1	0-40%
Solids, Percent	GN35896	F66560-1	%	77.4	76.9	0.6	0-10%
Specific Gravity	GN35944	F66618-2		1.6	1.7	3.4	0-20%

Associated Samples:
Batch GN35896: F66618-1, F66618-2
Batch GN35942: F66618-1, F66618-2
Batch GN35943: F66618-1, F66618-2
Batch GN35944: F66618-1, F66618-2
(*) Outside of QC limits

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/28/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66619

Sampling Date: 07/13/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **68**

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

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Client Service contact: Jean Dent-Smith 407-425-6700

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

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Accutest LabLink@92179 15:01 28-Jul-2009

Sample Summary

Nation View

Job No: F66619

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66619-1	07/13/09	10:20	ZB	07/14/09	AQ	Ground Water	SWMU122-MW06
F66619-2	07/13/09	10:20	ZB	07/14/09	AQ	Trip Blank Water	TRIP BLANK

Sample Results

Report of Analysis

Accutest LabLink@92179 15:01 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C064411.D	1	07/23/09	AJ	n/a	n/a	VC2598
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	0.45	1.0	0.28	ug/l	J
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 15:01 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92179 15:01 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		87-116%
17060-07-0	1,2-Dichloroethane-D4	93%		76-127%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

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 LabLink@92179 15:01 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L044547.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	24	9.5	ug/l	
95-57-8	2-Chlorophenol	ND	4.8	1.1	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.8	0.95	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.8	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.8	1.1	ug/l	
51-28-5	2,4-Dinitrophenol	ND	24	9.5	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.5	3.8	ug/l	
95-48-7	2-Methylphenol	ND	4.8	0.95	ug/l	
	3&4-Methylphenol	ND	4.8	0.95	ug/l	
88-75-5	2-Nitrophenol	ND	4.8	1.2	ug/l	
100-02-7	4-Nitrophenol	ND	24	9.5	ug/l	
87-86-5	Pentachlorophenol	ND	24	9.5	ug/l	
108-95-2	Phenol	ND	4.8	0.95	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.8	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.8	1.3	ug/l	
83-32-9	Acenaphthene	ND	4.8	0.95	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.95	ug/l	
120-12-7	Anthracene	ND	4.8	0.95	ug/l	
92-87-5	Benzidine	ND	24	9.5	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.95	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.95	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.95	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.95	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.95	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.8	0.95	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.8	0.95	ug/l	
100-51-6	Benzyl Alcohol	ND	4.8	0.95	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.8	0.95	ug/l	
106-47-8	4-Chloroaniline	ND	4.8	0.95	ug/l	
218-01-9	Chrysene	ND	4.8	0.95	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.8	0.95	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.8	0.95	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

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Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.8	0.95	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.8	0.95	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.8	0.95	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.8	0.95	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.8	0.95	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.8	0.95	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.8	0.95	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.5	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.95	ug/l	
132-64-9	Dibenzofuran	ND	4.8	0.95	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.8	0.95	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.8	1.4	ug/l	
84-66-2	Diethyl phthalate	ND	4.8	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.8	0.95	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.95	ug/l	
86-73-7	Fluorene	ND	4.8	0.95	ug/l	
118-74-1	Hexachlorobenzene	ND	4.8	0.95	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.8	2.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.8	1.2	ug/l	
67-72-1	Hexachloroethane	ND	4.8	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.0	ug/l	
78-59-1	Isophorone	ND	4.8	0.95	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.95	ug/l	
88-74-4	2-Nitroaniline	ND	9.5	1.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.5	1.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.5	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	0.95	ug/l	
98-95-3	Nitrobenzene	ND	4.8	0.95	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.8	0.95	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.95	ug/l	
129-00-0	Pyrene	ND	4.8	0.95	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.95	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	26%		14-62%
4165-62-2	Phenol-d5	21%		10-40%
118-79-6	2,4,6-Tribromophenol	64%		33-118%

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:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	51%		42-108%
321-60-8	2-Fluorobiphenyl	54%		40-106%
1718-51-0	Terphenyl-d14	44%		39-121%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089182.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	84%		57-129%
98-08-8	aaa-Trifluorotoluene	86%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046487.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	107%		38-127%
2051-24-3	Decachlorobiphenyl	97%		25-137%

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

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Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26899.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.24	0.095	mg/l	
	TPH (> C22-C36)	ND	0.24	0.095	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	90%		42-114%

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 LabLink@92179 15:01 28-Jul-2009

Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	19.7 J	200	11	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Arsenic	12.4	10	5.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Barium	34.4 J	200	5.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Calcium	460000	1000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Chromium	2.0 U	10	2.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Cobalt	1.0 U	50	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Copper	5.0 U	25	5.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Iron	23 U	300	23	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Lead	2.0 U	5.0	2.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Magnesium	353000	5000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Manganese	106	15	1.0	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [2]	SW846 7470A [5]
Nickel	7.4 J	40	2.3	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Potassium	55100	10000	100	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Selenium [a]	15.0 J	20	3.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Silver	1.4 U	10	1.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Sodium	1190000	200000	10000	ug/l	20	07/15/09	07/16/09	RS	SW846 6010B [3]	SW846 3010A [4]
Thallium	3.6 U	10	3.6	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Vanadium	51.5	50	0.90	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]
Zinc	8.4 J	20	7.4	ug/l	1	07/15/09	07/15/09	RS	SW846 6010B [1]	SW846 3010A [4]

(1) Instrument QC Batch: MA7361
(2) Instrument QC Batch: MA7365
(3) Instrument QC Batch: MA7367
(4) Prep QC Batch: MP16681
(5) Prep QC Batch: MP16685

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU122-MW06		
Lab Sample ID:	F66619-1	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/14/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	10900	100	10	mg/l	1	07/15/09	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92179 15:01 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66619-2	**Date Sampled:**	07/13/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/14/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C064412.D	1	07/23/09	AJ	n/a	n/a	VC2598
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92179 15:01 28-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F66619-2	**Date Sampled:**	07/13/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/14/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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:	F66619-2	**Date Sampled:**	07/13/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/14/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	94%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

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:

- Certification Exceptions
- Chain of Custody

F66619

NATIONVIEW

PO#: 09-0112

Page: 1 of 1

NationView Project No: 8080014.02.020

COC Number[1]: 7/13/09 (1)

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122/123

Client Name: USACE

Collected by: Zack Beck / Dustin McNeil

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU122-MW06		13-July-2009	1020	-	N		WG	14	X	X	X	X	X	X								1
2	Trip Blank-Cooler 1			1020	-	TB		WQ	2	X													1

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

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished by (Signed)	Date	Time		Received by (signed)	Date	Time
1.	[signature]	7/13/09	1500	1.	[signature]		
2.	[signature]	7/14/09	9:00	2.	[signature] / Accutest	7/14/09	9:00
3.				3.			

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Airbill Number:

Analytical Lab: Delivery Location:

Lab Recipient: Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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 10109901 in the Equipment Blank Lot Control

3.0

F66619: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66619 CLIENT: NAtionview PROJECT: Hollowman AFB

DATE/TIME RECEIVED: 7/14/09 9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 3.0

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

AIRBILL NUMBERS: 8696 4911 0841

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] 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 NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] 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 NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? X

NUMBER OF 5035 FIELD KITS ? X

NUMBER OF LAB FILTERED METALS ? X

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 7/14/09 TECHNICIAN SIGNATURE/DATE JC 7-14-09

ASBD 12/17/07

F66619: 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: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC2598-MB	C064399.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	

Method Blank Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC2598-MB	C064399.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

Method Blank Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC2598-MB	C064399.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	87-116%
17060-07-0	1,2-Dichloroethane-D4	93%	76-127%
2037-26-5	Toluene-D8	94%	86-112%
460-00-4	4-Bromofluorobenzene	101%	84-120%

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC2598-BS	C064398.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	75.2	60	59-134
107-02-8	Acrolein	125	9.9	8*	33-157
107-13-1	Acrylonitrile	125	112	90	62-124
71-43-2	Benzene	25	25.0	100	83-124
108-86-1	Bromobenzene	25	25.2	101	83-115
74-97-5	Bromochloromethane	25	25.2	101	78-112
75-27-4	Bromodichloromethane	25	22.7	91	76-116
75-25-2	Bromoform	25	24.0	96	68-128
104-51-8	n-Butylbenzene	25	27.1	108	84-124
135-98-8	sec-Butylbenzene	25	27.3	109	86-127
98-06-6	tert-Butylbenzene	25	26.0	104	83-126
108-90-7	Chlorobenzene	25	25.9	104	87-115
75-00-3	Chloroethane	25	25.4	102	54-166
67-66-3	Chloroform	25	24.3	97	85-123
95-49-8	o-Chlorotoluene	25	25.2	101	84-121
106-43-4	p-Chlorotoluene	25	25.1	100	84-120
110-75-8	2-Chloroethyl vinyl ether	125	131	105	63-125
75-15-0	Carbon disulfide	25	27.2	109	67-147
56-23-5	Carbon tetrachloride	25	26.3	105	74-139
75-34-3	1,1-Dichloroethane	25	25.7	103	82-127
75-35-4	1,1-Dichloroethylene	25	26.1	104	75-133
563-58-6	1,1-Dichloropropene	25	26.0	104	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	21.5	86	61-118
106-93-4	1,2-Dibromoethane	25	24.2	97	80-115
107-06-2	1,2-Dichloroethane	25	21.4	86	76-122
78-87-5	1,2-Dichloropropane	25	24.6	98	81-120
142-28-9	1,3-Dichloropropane	25	23.6	94	81-113
594-20-7	2,2-Dichloropropane	25	27.1	108	77-138
124-48-1	Dibromochloromethane	25	24.6	98	74-116
75-71-8	Dichlorodifluoromethane	25	22.6	90	34-158
156-59-2	cis-1,2-Dichloroethylene	25	24.7	99	81-114
10061-01-5	cis-1,3-Dichloropropene	25	24.5	98	83-119
541-73-1	m-Dichlorobenzene	25	24.4	98	86-115
95-50-1	o-Dichlorobenzene	25	24.6	98	85-115
106-46-7	p-Dichlorobenzene	25	24.9	100	87-113
156-60-5	trans-1,2-Dichloroethylene	25	25.2	101	82-126

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC2598-BS	C064398.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	25	26.4	106	87-123
100-41-4	Ethylbenzene	25	26.2	105	87-118
591-78-6	2-Hexanone	125	110	88	58-125
87-68-3	Hexachlorobutadiene	25	26.3	105	71-133
110-54-3	Hexane	25	30.5	122	71-134
98-82-8	Isopropylbenzene	25	27.4	110	87-131
99-87-6	p-Isopropyltoluene	25	27.6	110	83-125
108-10-1	4-Methyl-2-pentanone	125	119	95	62-125
74-83-9	Methyl bromide	25	21.2	85	55-151
74-87-3	Methyl chloride	25	23.3	93	55-173
74-95-3	Methylene bromide	25	23.5	94	81-116
75-09-2	Methylene chloride	25	23.2	93	69-125
78-93-3	Methyl ethyl ketone	125	92.5	74	61-127
1634-04-4	Methyl Tert Butyl Ether	25	24.0	96	75-116
91-20-3	Naphthalene	25	22.4	90	59-125
103-65-1	n-Propylbenzene	25	26.3	105	86-125
100-42-5	Styrene	25	26.5	106	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	23.7	95	81-119
71-55-6	1,1,1-Trichloroethane	25	26.1	104	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	22.2	89	71-120
79-00-5	1,1,2-Trichloroethane	25	23.6	94	80-114
87-61-6	1,2,3-Trichlorobenzene	25	22.5	90	64-126
96-18-4	1,2,3-Trichloropropane	25	20.3	81	77-115
120-82-1	1,2,4-Trichlorobenzene	25	26.1	104	68-123
95-63-6	1,2,4-Trimethylbenzene	25	24.7	99	82-120
108-67-8	1,3,5-Trimethylbenzene	25	26.6	106	83-123
127-18-4	Tetrachloroethylene	25	26.6	106	80-131
108-88-3	Toluene	25	26.3	105	86-116
79-01-6	Trichloroethylene	25	23.2	93	85-124
75-69-4	Trichlorofluoromethane	25	26.6	106	66-156
75-01-4	Vinyl chloride	25	24.3	97	57-153
108-05-4	Vinyl Acetate	125	144	115	38-159
	m,p-Xylene	50	52.8	106	86-121
95-47-6	o-Xylene	25	26.1	104	83-121

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC2598-BS	C064398.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	87-116%
17060-07-0	1,2-Dichloroethane-D4	89%	76-127%
2037-26-5	Toluene-D8	100%	86-112%
460-00-4	4-Bromofluorobenzene	96%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66799-1MS	C064409.D	1	07/23/09	AJ	n/a	n/a	VC2598
F66799-1MSD	C064410.D	1	07/23/09	AJ	n/a	n/a	VC2598
F66799-1	C064402.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Compound	F66799-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	25 U		125	74.3	59	87.2	70	16*	59-134/14
107-02-8	Acrolein	20 U		125	9.8	8*	8.6	7*	13	33-157/21
107-13-1	Acrylonitrile	10 U		125	113	90	118	94	4	62-124/13
71-43-2	Benzene	1.0 U		25	25.3	101	25.5	102	1	83-124/11
108-86-1	Bromobenzene	1.0 U		25	24.0	96	23.1	92	4	83-115/10
74-97-5	Bromochloromethane	1.0 U		25	24.9	100	24.6	98	1	78-112/10
75-27-4	Bromodichloromethane	1.0 U		25	21.5	86	22.0	88	2	76-116/10
75-25-2	Bromoform	1.0 U		25	20.1	80	21.4	86	6	68-128/11
104-51-8	n-Butylbenzene	1.0 U		25	26.6	106	24.7	99	7	84-124/10
135-98-8	sec-Butylbenzene	1.0 U		25	26.6	106	23.8	95	11*	86-127/10
98-06-6	tert-Butylbenzene	1.0 U		25	24.7	99	22.2	89	11*	83-126/10
108-90-7	Chlorobenzene	1.0 U		25	25.8	103	25.5	102	1	87-115/9
75-00-3	Chloroethane	2.0 U		25	31.8	127	29.2	117	9	54-166/20
67-66-3	Chloroform	1.0 U		25	24.5	98	23.7	95	3	85-123/10
95-49-8	o-Chlorotoluene	1.0 U		25	24.7	99	22.8	91	8	84-121/10
106-43-4	p-Chlorotoluene	1.0 U		25	24.4	98	22.7	91	7	84-120/10
110-75-8	2-Chloroethyl vinyl ether	5.0 U		125	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	2.0 U		25	35.5	142	33.6	134	5	67-147/12
56-23-5	Carbon tetrachloride	1.0 U		25	24.6	98	24.0	96	2	74-139/13
75-34-3	1,1-Dichloroethane	1.0 U		25	25.8	103	26.7	107	3	82-127/10
75-35-4	1,1-Dichloroethylene	1.0 U		25	29.0	116	28.2	113	3	75-133/13
563-58-6	1,1-Dichloropropene	1.0 U		25	25.8	103	25.4	102	2	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	2.0 U		25	21.5	86	19.8	79	8	61-118/15
106-93-4	1,2-Dibromoethane	1.0 U		25	22.3	89	22.7	91	2	80-115/10
107-06-2	1,2-Dichloroethane	1.0 U		25	20.9	84	20.9	84	0	76-122/11
78-87-5	1,2-Dichloropropane	1.0 U		25	25.5	102	24.6	98	4	81-120/11
142-28-9	1,3-Dichloropropane	1.0 U		25	22.4	90	22.5	90	0	81-113/11
594-20-7	2,2-Dichloropropane	1.0 U		25	25.1	100	24.9	100	1	77-138/12
124-48-1	Dibromochloromethane	1.0 U		25	21.2	85	21.1	84	0	74-116/11
75-71-8	Dichlorodifluoromethane	2.0 U		25	18.1	72	22.1	88	20	34-158/22
156-59-2	cis-1,2-Dichloroethylene	1.0 U		25	24.5	98	24.3	97	1	81-114/10
10061-01-5	cis-1,3-Dichloropropene	1.0 U		25	22.4	90	22.9	92	2	83-119/10
541-73-1	m-Dichlorobenzene	1.0 U		25	23.5	94	21.8	87	8	86-115/9
95-50-1	o-Dichlorobenzene	1.0 U		25	23.4	94	22.1	88	6	85-115/9
106-46-7	p-Dichlorobenzene	1.0 U		25	24.8	99	23.5	94	5	87-113/10
156-60-5	trans-1,2-Dichloroethylene	1.0 U		25	25.3	101	26.7	107	5	82-126/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66799-1MS	C064409.D	1	07/23/09	AJ	n/a	n/a	VC2598
F66799-1MSD	C064410.D	1	07/23/09	AJ	n/a	n/a	VC2598
F66799-1	C064402.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Compound	F66799-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	1.0 U		25	24.1	96	24.8	99	3	87-123/10
100-41-4	Ethylbenzene	1.0 U		25	25.1	100	24.9	100	1	87-118/10
591-78-6	2-Hexanone	10 U		125	107	86	111	89	4	58-125/14
87-68-3	Hexachlorobutadiene	2.0 U		25	21.9	88	22.1	88	1	71-133/12
110-54-3	Hexane	2.0 U		25	31.1	124	33.3	133	7	71-134/11
98-82-8	Isopropylbenzene	1.0 U		25	25.3	101	25.7	103	2	87-131/10
99-87-6	p-Isopropyltoluene	1.0 U		25	25.8	103	24.1	96	7	83-125/9
108-10-1	4-Methyl-2-pentanone	5.0 U		125	118	94	123	98	4	62-125/13
74-83-9	Methyl bromide	2.0 U		25	28.7	115	28.6	114	0	55-151/21
74-87-3	Methyl chloride	2.0 U		25	24.2	97	27.0	108	11	55-173/22
74-95-3	Methylene bromide	2.0 U		25	22.9	92	22.8	91	0	81-116/10
75-09-2	Methylene chloride	5.0 U		25	22.4	90	24.5	98	9	69-125/11
78-93-3	Methyl ethyl ketone	5.0 U		125	93.5	75	95.4	76	2	61-127/13
1634-04-4	Methyl Tert Butyl Ether	1.0 U		25	22.5	90	24.7	99	9	75-116/10
91-20-3	Naphthalene	5.0 U		25	20.5	82	20.3	81	1	59-125/15
103-65-1	n-Propylbenzene	1.0 U		25	26.5	106	23.9	96	10	86-125/10
100-42-5	Styrene	1.0 U		25	24.6	98	25.4	102	3	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	1.0 U		25	20.9	84	21.9	88	5	81-119/10
71-55-6	1,1,1-Trichloroethane	1.0 U		25	24.1	96	23.8	95	1	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	1.0 U		25	22.6	90	20.6	82	9	71-120/11
79-00-5	1,1,2-Trichloroethane	1.0 U		25	22.6	90	24.0	96	6	80-114/11
87-61-6	1,2,3-Trichlorobenzene	1.0 U		25	19.9	80	19.7	79	1	64-126/16
96-18-4	1,2,3-Trichloropropane	2.0 U		25	18.8	75*	18.4	74*	2	77-115/12
120-82-1	1,2,4-Trichlorobenzene	1.0 U		25	23.5	94	22.6	90	4	68-123/11
95-63-6	1,2,4-Trimethylbenzene	2.0 U		25	24.1	96	22.3	89	8	82-120/10
108-67-8	1,3,5-Trimethylbenzene	2.0 U		25	25.4	102	23.4	94	8	83-123/10
127-18-4	Tetrachloroethylene	1.0 U		25	23.1	92	22.9	92	1	80-131/12
108-88-3	Toluene	1.0 U		25	25.4	102	25.7	103	1	86-116/10
79-01-6	Trichloroethylene	1.0 U		25	23.0	92	23.1	92	0	85-124/10
75-69-4	Trichlorofluoromethane	2.0 U		25	26.0	104	28.3	113	8	66-156/15
75-01-4	Vinyl chloride	1.0 U		25	25.9	104	29.2	117	12	57-153/22
108-05-4	Vinyl Acetate	10 U		125	143	114	145	116	1	38-159/11
	m,p-Xylene	2.0 U		50	49.1	98	50.3	101	2	86-121/10
95-47-6	o-Xylene	1.0 U		25	24.1	96	24.4	98	1	83-121/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66799-1MS	C064409.D	1	07/23/09	AJ	n/a	n/a	VC2598
F66799-1MSD	C064410.D	1	07/23/09	AJ	n/a	n/a	VC2598
F66799-1	C064402.D	1	07/23/09	AJ	n/a	n/a	VC2598

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

F66619-1, F66619-2

CAS No.	Surrogate Recoveries	MS	MSD	F66799-1	Limits
1868-53-7	Dibromofluoromethane	97%	97%	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	88%	88%	89%	76-127%
2037-26-5	Toluene-D8	94%	96%	96%	86-112%
460-00-4	4-Bromofluorobenzene	94%	90%	100%	84-120%

GC/MS Semi-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: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-MB	L044544.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-MB	L044544.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	33%	14-62%
4165-62-2	Phenol-d5	23%	10-40%

Method Blank Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-MB	L044544.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	69%	33-118%
4165-60-0	Nitrobenzene-d5	59%	42-108%
321-60-8	2-Fluorobiphenyl	64%	40-106%
1718-51-0	Terphenyl-d14	55%	39-121%

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-BS	L044543.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	14.0	14	10-50
95-57-8	2-Chlorophenol	50	33.9	68	44-103
59-50-7	4-Chloro-3-methyl phenol	50	35.9	72	53-105
120-83-2	2,4-Dichlorophenol	50	39.9	80	53-108
105-67-9	2,4-Dimethylphenol	50	29.7	59	37-91
51-28-5	2,4-Dinitrophenol	100	75.2	75	37-111
534-52-1	4,6-Dinitro-o-cresol	100	78.1	78	62-115
95-48-7	2-Methylphenol	50	26.5	53	35-91
	3&4-Methylphenol	100	46.5	47	32-85
88-75-5	2-Nitrophenol	50	38.0	76	49-111
100-02-7	4-Nitrophenol	100	26.3	26	13-55
87-86-5	Pentachlorophenol	100	87.9	88	57-118
108-95-2	Phenol	50	12.9	26	13-54
95-95-4	2,4,5-Trichlorophenol	50	37.0	74	59-106
88-06-2	2,4,6-Trichlorophenol	50	38.6	77	58-107
83-32-9	Acenaphthene	50	35.9	72	58-106
208-96-8	Acenaphthylene	50	34.5	69	58-105
120-12-7	Anthracene	50	33.8	68	65-108
92-87-5	Benzidine	50	19.3	39	15-73
56-55-3	Benzo(a)anthracene	50	35.7	71	63-111
50-32-8	Benzo(a)pyrene	50	34.5	69	62-106
205-99-2	Benzo(b)fluoranthene	50	35.4	71	63-109
191-24-2	Benzo(g,h,i)perylene	50	36.1	72	61-111
207-08-9	Benzo(k)fluoranthene	50	37.5	75	64-111
101-55-3	4-Bromophenyl phenyl ether	50	38.3	77	64-107
85-68-7	Butyl benzyl phthalate	50	36.4	73	59-114
100-51-6	Benzyl Alcohol	50	26.6	53	34-98
91-58-7	2-Chloronaphthalene	50	33.6	67	54-105
106-47-8	4-Chloroaniline	50	34.4	69	53-103
218-01-9	Chrysene	50	35.2	70	64-111
111-91-1	bis(2-Chloroethoxy)methane	50	36.6	73	48-101
111-44-4	bis(2-Chloroethyl)ether	50	34.0	68	51-108
108-60-1	bis(2-Chloroisopropyl)ether	50	33.6	67	43-106
7005-72-3	4-Chlorophenyl phenyl ether	50	38.3	77	61-107
95-50-1	1,2-Dichlorobenzene	50	33.8	68	41-102
541-73-1	1,3-Dichlorobenzene	50	33.2	66	38-100

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-BS	L044543.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-46-7	1,4-Dichlorobenzene	50	32.8	66	40-100
121-14-2	2,4-Dinitrotoluene	50	35.3	71	60-109
606-20-2	2,6-Dinitrotoluene	50	35.1	70	58-104
91-94-1	3,3'-Dichlorobenzidine	50	31.6	63	57-105
53-70-3	Dibenzo(a,h)anthracene	50	36.2	72	62-112
132-64-9	Dibenzofuran	50	34.4	69	61-108
84-74-2	Di-n-butyl phthalate	50	37.1	74	62-109
117-84-0	Di-n-octyl phthalate	50	37.5	75	60-120
84-66-2	Diethyl phthalate	50	37.7	75	62-109
131-11-3	Dimethyl phthalate	50	38.0	76	63-106
117-81-7	bis(2-Ethylhexyl)phthalate	50	36.9	74	59-116
206-44-0	Fluoranthene	50	36.0	72	65-114
86-73-7	Fluorene	50	36.5	73	61-106
118-74-1	Hexachlorobenzene	50	36.5	73	62-107
87-68-3	Hexachlorobutadiene	50	37.2	74	38-107
77-47-4	Hexachlorocyclopentadiene	50	29.4	59	19-84
67-72-1	Hexachloroethane	50	31.8	64	35-101
193-39-5	Indeno(1,2,3-cd)pyrene	50	34.9	70	61-113
78-59-1	Isophorone	50	31.8	64	56-111
91-57-6	2-Methylnaphthalene	50	36.8	74	56-112
88-74-4	2-Nitroaniline	50	31.8	64	60-109
99-09-2	3-Nitroaniline	50	31.9	64	52-107
100-01-6	4-Nitroaniline	50	33.7	67	59-111
91-20-3	Naphthalene	50	34.6	69	50-104
98-95-3	Nitrobenzene	50	34.3	69	52-105
621-64-7	N-Nitroso-di-n-propylamine	50	31.9	64	51-104
86-30-6	N-Nitrosodiphenylamine	50	32.6	65	57-110
85-01-8	Phenanthrene	50	35.9	72	65-108
129-00-0	Pyrene	50	35.4	71	60-113
120-82-1	1,2,4-Trichlorobenzene	50	35.3	71	45-104

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	38%	14-62%
4165-62-2	Phenol-d5	24%	10-40%

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-BS	L044543.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Surrogate Recoveries	BSP	Limits
118-79-6	2,4,6-Tribromophenol	73%	33-118%
4165-60-0	Nitrobenzene-d5	67%	42-108%
321-60-8	2-Fluorobiphenyl	67%	40-106%
1718-51-0	Terphenyl-d14	63%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-MS	L044548.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
OP29615-MSD	L044549.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
F66619-1	L044547.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Compound	F66619-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		192	66.2	34	68.5	36	3	10-50/40
95-57-8	2-Chlorophenol	ND		96.2	57.6	60	55.4	58	4	44-103/29
59-50-7	4-Chloro-3-methyl phenol	ND		96.2	62.2	65	63.3	66	2	53-105/24
120-83-2	2,4-Dichlorophenol	ND		96.2	64.0	67	64.3	67	0	53-108/26
105-67-9	2,4-Dimethylphenol	ND		96.2	48.3	50	49.6	52	3	37-91/28
51-28-5	2,4-Dinitrophenol	ND		192	133	69	135	70	1	37-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		192	135	70	137	71	1	62-115/26
95-48-7	2-Methylphenol	ND		96.2	52.0	54	50.1	52	4	35-91/30
	3&4-Methylphenol	ND		192	99.6	52	94.1	49	6	32-85/29
88-75-5	2-Nitrophenol	ND		96.2	62.4	65	62.5	65	0	49-111/30
100-02-7	4-Nitrophenol	ND		192	81.5	42	77.1	40	6	13-55/31
87-86-5	Pentachlorophenol	ND		192	148	77	153	80	3	57-118/26
108-95-2	Phenol	ND		96.2	38.5	40	34.0	35	12	13-54/34
95-95-4	2,4,5-Trichlorophenol	ND		96.2	62.1	65	63.4	66	2	59-106/23
88-06-2	2,4,6-Trichlorophenol	ND		96.2	63.5	66	64.9	67	2	58-107/24
83-32-9	Acenaphthene	ND		96.2	60.7	63	60.3	63	1	58-106/21
208-96-8	Acenaphthylene	ND		96.2	56.9	59	58.3	61	2	58-105/21
120-12-7	Anthracene	ND		96.2	57.4	60*	57.1	59*	1	65-108/19
92-87-5	Benzidine	ND		96.2	ND	0*	ND	0*	nc	15-73/23
56-55-3	Benzo(a)anthracene	ND		96.2	59.9	62*	61.2	64	2	63-111/19
50-32-8	Benzo(a)pyrene	ND		96.2	58.9	61*	59.4	62	1	62-106/20
205-99-2	Benzo(b)fluoranthene	ND		96.2	60.5	63	60.0	62*	1	63-109/20
191-24-2	Benzo(g,h,i)perylene	ND		96.2	60.5	63	62.5	65	3	61-111/21
207-08-9	Benzo(k)fluoranthene	ND		96.2	62.4	65	65.0	68	4	64-111/20
101-55-3	4-Bromophenyl phenyl ether	ND		96.2	65.8	68	66.3	69	1	64-107/20
85-68-7	Butyl benzyl phthalate	ND		96.2	62.5	65	63.6	66	2	59-114/20
100-51-6	Benzyl Alcohol	ND		96.2	52.7	55	51.1	53	3	34-98/27
91-58-7	2-Chloronaphthalene	ND		96.2	55.2	57	56.3	59	2	54-105/24
106-47-8	4-Chloroaniline	ND		96.2	55.7	58	55.5	58	0	53-103/22
218-01-9	Chrysene	ND		96.2	60.2	63*	60.7	63*	1	64-111/19
111-91-1	bis(2-Chloroethoxy)methane	ND		96.2	59.9	62	59.9	62	0	48-101/28
111-44-4	bis(2-Chloroethyl)ether	ND		96.2	56.2	58	55.6	58	1	51-108/27
108-60-1	bis(2-Chloroisopropyl)ether	ND		96.2	55.1	57	53.7	56	3	43-106/27
7005-72-3	4-Chlorophenyl phenyl ether	ND		96.2	64.8	67	65.2	68	1	61-107/20
95-50-1	1,2-Dichlorobenzene	ND		96.2	57.6	60	54.2	56	6	41-102/28
541-73-1	1,3-Dichlorobenzene	ND		96.2	55.2	57	53.0	55	4	38-100/28

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-MS	L044548.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
OP29615-MSD	L044549.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
F66619-1	L044547.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Compound	F66619-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-46-7	1,4-Dichlorobenzene	ND		96.2	55.0	57	52.2	54	5	40-100/28
121-14-2	2,4-Dinitrotoluene	ND		96.2	59.2	62	59.5	62	1	60-109/20
606-20-2	2,6-Dinitrotoluene	ND		96.2	59.3	62	61.1	64	3	58-104/21
91-94-1	3,3'-Dichlorobenzidine	ND		96.2	38.1	40*	40.0	42*	5	57-105/25
53-70-3	Dibenzo(a,h)anthracene	ND		96.2	59.7	62	62.3	65	4	62-112/20
132-64-9	Dibenzofuran	ND		96.2	57.5	60*	58.5	61	2	61-108/20
84-74-2	Di-n-butyl phthalate	ND		96.2	64.0	67	64.3	67	0	62-109/20
117-84-0	Di-n-octyl phthalate	ND		96.2	65.1	68	65.0	68	0	60-120/24
84-66-2	Diethyl phthalate	ND		96.2	64.1	67	63.7	66	1	62-109/19
131-11-3	Dimethyl phthalate	ND		96.2	63.6	66	64.0	67	1	63-106/19
117-81-7	bis(2-Ethylhexyl)phthalate	ND		96.2	62.7	65	64.4	67	3	59-116/21
206-44-0	Fluoranthene	ND		96.2	60.4	63*	61.1	64*	1	65-114/21
86-73-7	Fluorene	ND		96.2	62.2	65	61.3	64	1	61-106/19
118-74-1	Hexachlorobenzene	ND		96.2	62.6	65	62.7	65	0	62-107/20
87-68-3	Hexachlorobutadiene	ND		96.2	61.9	64	61.0	63	1	38-107/30
77-47-4	Hexachlorocyclopentadiene	ND		96.2	50.5	53	55.5	58	9	19-84/35
67-72-1	Hexachloroethane	ND		96.2	54.3	56	52.1	54	4	35-101/29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		96.2	59.0	61	60.7	63	3	61-113/20
78-59-1	Isophorone	ND		96.2	51.7	54*	52.7	55*	2	56-111/26
91-57-6	2-Methylnaphthalene	ND		96.2	60.3	63	60.9	63	1	56-112/26
88-74-4	2-Nitroaniline	ND		96.2	50.9	53*	51.8	54*	2	60-109/20
99-09-2	3-Nitroaniline	ND		96.2	49.8	52	49.8	52	0	52-107/21
100-01-6	4-Nitroaniline	ND		96.2	46.9	49*	48.2	50*	3	59-111/21
91-20-3	Naphthalene	ND		96.2	57.6	60	56.7	59	2	50-104/28
98-95-3	Nitrobenzene	ND		96.2	57.4	60	56.6	59	1	52-105/28
621-64-7	N-Nitroso-di-n-propylamine	ND		96.2	52.3	54	52.4	54	0	51-104/28
86-30-6	N-Nitrosodiphenylamine	ND		96.2	56.4	59	55.5	58	2	57-110/19
85-01-8	Phenanthrene	ND		96.2	61.9	64*	61.6	64*	0	65-108/20
129-00-0	Pyrene	ND		96.2	60.2	63	62.0	64	3	60-113/20
120-82-1	1,2,4-Trichlorobenzene	ND		96.2	58.0	60	57.4	60	1	45-104/28

CAS No.	Surrogate Recoveries	MS	MSD	F66619-1	Limits
367-12-4	2-Fluorophenol	46%	42%	26%	14-62%
4165-62-2	Phenol-d5	38%	33%	21%	10-40%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-MS	L044548.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
OP29615-MSD	L044549.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
F66619-1	L044547.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Surrogate Recoveries	MS	MSD	F66619-1	Limits
118-79-6	2,4,6-Tribromophenol	64%	65%	64%	33-118%
4165-60-0	Nitrobenzene-d5	55%	55%	51%	42-108%
321-60-8	2-Fluorobiphenyl	57%	58%	54%	40-106%
1718-51-0	Terphenyl-d14	56%	56%	44%	39-121%

Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-DUP1	L044558.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
F66626-1 [a]	L044557.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Compound	F66626-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
65-85-0	Benzoic Acid	ND		ND		nc	40
95-57-8	2-Chlorophenol	ND		ND		nc	29
59-50-7	4-Chloro-3-methyl phenol	ND		ND		nc	24
120-83-2	2,4-Dichlorophenol	ND		ND		nc	26
105-67-9	2,4-Dimethylphenol	ND		ND		nc	28
51-28-5	2,4-Dinitrophenol	ND		ND		nc	30
534-52-1	4,6-Dinitro-o-cresol	ND		ND		nc	26
95-48-7	2-Methylphenol	ND		ND		nc	30
	3&4-Methylphenol	ND		ND		nc	29
88-75-5	2-Nitrophenol	ND		ND		nc	30
100-02-7	4-Nitrophenol	ND		ND		nc	31
87-86-5	Pentachlorophenol	ND		ND		nc	26
108-95-2	Phenol	ND		ND		nc	34
95-95-4	2,4,5-Trichlorophenol	ND		ND		nc	23
88-06-2	2,4,6-Trichlorophenol	ND		ND		nc	24
83-32-9	Acenaphthene	ND		ND		nc	21
208-96-8	Acenaphthylene	ND		ND		nc	21
120-12-7	Anthracene	ND		ND		nc	19
92-87-5	Benzidine	ND		ND		nc	23
56-55-3	Benzo(a)anthracene	ND		ND		nc	19
50-32-8	Benzo(a)pyrene	ND		ND		nc	20
205-99-2	Benzo(b)fluoranthene	ND		ND		nc	20
191-24-2	Benzo(g,h,i)perylene	ND		ND		nc	21
207-08-9	Benzo(k)fluoranthene	ND		ND		nc	20
101-55-3	4-Bromophenyl phenyl ether	ND		ND		nc	20
85-68-7	Butyl benzyl phthalate	ND		ND		nc	20
100-51-6	Benzyl Alcohol	ND		ND		nc	27
91-58-7	2-Chloronaphthalene	ND		ND		nc	24
106-47-8	4-Chloroaniline	ND		ND		nc	22
218-01-9	Chrysene	ND		ND		nc	19
111-91-1	bis(2-Chloroethoxy)methane	ND		ND		nc	28
111-44-4	bis(2-Chloroethyl)ether	ND		ND		nc	27
108-60-1	bis(2-Chloroisopropyl)ether	ND		ND		nc	27
7005-72-3	4-Chlorophenyl phenyl ether	ND		ND		nc	20
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	28
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	28

Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-DUP1	L044558.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
F66626-1 [a]	L044557.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Compound	F66626-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
106-46-7	1,4-Dichlorobenzene	ND		ND		nc	28
121-14-2	2,4-Dinitrotoluene	ND		ND		nc	20
606-20-2	2,6-Dinitrotoluene	ND		ND		nc	21
91-94-1	3,3'-Dichlorobenzidine	ND		ND		nc	25
53-70-3	Dibenzo(a,h)anthracene	ND		ND		nc	20
132-64-9	Dibenzofuran	ND		ND		nc	20
84-74-2	Di-n-butyl phthalate	ND		215	J	200*	20
117-84-0	Di-n-octyl phthalate	1420		1440		1	24
84-66-2	Diethyl phthalate	ND		ND		nc	19
131-11-3	Dimethyl phthalate	ND		ND		nc	19
117-81-7	bis(2-Ethylhexyl)phthalate	961		981		2	21
206-44-0	Fluoranthene	ND		ND		nc	21
86-73-7	Fluorene	290	J	303	J	4	19
118-74-1	Hexachlorobenzene	ND		ND		nc	20
87-68-3	Hexachlorobutadiene	ND		ND		nc	30
77-47-4	Hexachlorocyclopentadiene	ND		ND		nc	35
67-72-1	Hexachloroethane	ND		ND		nc	29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ND		nc	20
78-59-1	Isophorone	ND		ND		nc	26
91-57-6	2-Methylnaphthalene	214	J	225	J	5	26
88-74-4	2-Nitroaniline	ND		ND		nc	20
99-09-2	3-Nitroaniline	ND		ND		nc	21
100-01-6	4-Nitroaniline	ND		ND		nc	21
91-20-3	Naphthalene	ND		ND		nc	28
98-95-3	Nitrobenzene	ND		ND		nc	28
621-64-7	N-Nitroso-di-n-propylamine	ND		ND		nc	28
86-30-6	N-Nitrosodiphenylamine	ND		ND		nc	19
85-01-8	Phenanthrene	398	J	400	J	1	20
129-00-0	Pyrene	139	J	121	J	14	20
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	28

CAS No.	Surrogate Recoveries	DUP	F66626-1	Limits
367-12-4	2-Fluorophenol	37%	41%	14-62%
4165-62-2	Phenol-d5	26%	29%	10-40%

Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29615-DUP1	L044558.D	1	07/20/09	RB	07/15/09	OP29615	SL2267
F66626-1 [a]	L044557.D	1	07/20/09	RB	07/15/09	OP29615	SL2267

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66619-1

CAS No.	Surrogate Recoveries	DUP	F66626-1	Limits
118-79-6	2,4,6-Tribromophenol	91%	97%	33-118%
4165-60-0	Nitrobenzene-d5	81%	90%	42-108%
321-60-8	2-Fluorobiphenyl	82%	88%	40-106%
1718-51-0	Terphenyl-d14	71%	79%	39-121%

(a) Elevated reporting limit due to matrix interference, dilution required during sample prep.

GC 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: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3759-MB	CD089179.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66619-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	82%	57-129%
98-08-8	aaa-Trifluorotoluene	85%	58-120%

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3759-BS	CD089178.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66619-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.346	87	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	57-129%
98-08-8	aaa-Trifluorotoluene	114%	58-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66619-1MS	CD089186.D	1	07/16/09	SL	n/a	n/a	GCD3759
F66619-1MSD	CD089187.D	1	07/16/09	SL	n/a	n/a	GCD3759
F66619-1	CD089182.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66619-1

CAS No.	Compound	F66619-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		0.4	0.432	108	0.354	89	20*	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F66619-1	Limits
460-00-4	4-Bromofluorobenzene	102%	95%	84%	57-129%
98-08-8	aaa-Trifluorotoluene	111%	100%	86%	58-120%

GC Semi-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: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-MB	XX046481.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66619-1

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	112%	38-127%
2051-24-3	Decachlorobiphenyl	100%	25-137%

Method Blank Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-MB	LL26890.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66619-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	90%	42-114%

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-BS	XX046480.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66619-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	4	4.2	105	76-117
11096-82-5	Aroclor 1260	4	4.3	108	65-117

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	107%	38-127%
2051-24-3	Decachlorobiphenyl	100%	25-137%

Blank Spike Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-BS	LL26889.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66619-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C22)	1	0.824	82	60-140
	TPH (> C22-C36)	1	0.970	97	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	91%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-MS	XX046484.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
OP29621-MSD	XX046485.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
F66576-1	XX046483.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66619-1

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		7.69	7.2	94	7.1	92	1	76-117/16
11096-82-5	Aroclor 1260	ND		7.69	7.7	100	7.7	100	0	65-117/23

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
877-09-8	Tetrachloro-m-xylene	99%	97%	94%	38-127%
2051-24-3	Decachlorobiphenyl	100%	100%	94%	25-137%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66619
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29609-MS	LL26892.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
OP29609-MSD	LL26893.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019
F66576-1	LL26891.D	1	07/17/09	SL	07/15/09	OP29609	GLL1019

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66619-1

CAS No.	Compound	F66576-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	ND		2.04	1.71	84	2.06	101	19	60-140/30
	TPH (> C22-C36)	ND		2.04	2.15	105	2.31	113	7	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
84-15-1	o-Terphenyl	89%	102%	92%	42-114%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	11	11	9.5	<200
Antimony	6.0	4.5	4.5	-0.97	<6.0
Arsenic	10	3.6	5.4	4.5	<10
Barium	200	5	5	-0.24	<200
Beryllium	4.0	1	1	0.31	<4.0
Cadmium	5.0	1	1	0.090	<5.0
Calcium	1000	100	100	-110	<1000
Chromium	10	1.6	2	0.42	<10
Cobalt	50	.83	1	0.30	<50
Copper	50	2.1	20	14.1	<50
Iron	300	23	23	7.4	<300
Lead	5.0	2	2	0.94	<5.0
Magnesium	5000	100	100	6.9	<5000
Manganese	15	.5	1	0.22	<15
Molybdenum	50	2.8	5		
Nickel	40	2.3	2.3	0.11	<40
Potassium	10000	100	100	238	<10000
Selenium	20	3.1	3.4	1.3	<20
Silver	10	1.2	1.4	0.30	<10
Sodium	10000	500	500	61.2	<10000
Thallium	10	3.4	3.6	-4.2	<10
Tin	50	2.8	2.8		
Vanadium	50	.66	.9	0.15	<50
Zinc	20	3.8	7.4	10.0	<20

Associated samples MP16681: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			07/15/09					07/15/09	
Metal	F66576-1 Original	DUP	RPD	QC Limits	F66576-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	26.2	31.2	17.4	0-20	26.2	28700	27000	106.2	80-120
Antimony	0.0	0.0 (a)	NC	0-20	0.0	556 (a)	500	111.2	80-120
Arsenic	15.1	15.2 (a)	52.3 (b)	0-20	15.1	2190 (a)	2000	109.1	80-120
Barium	34.6	35.9	3.7	0-20	34.6	2210	2000	108.8	80-120
Beryllium	0.0	0.0	NC	0-20	0.0	54.8	50	109.6	80-120
Cadmium	0.0	0.0	NC	0-20	0.0	53.0	50	106.0	80-120
Calcium	566000	623000	4.1	0-20	566000	611000	25000	52.0 (c)	80-120
Chromium	0.0	0.0	NC	0-20	0.0	216	200	108.0	80-120
Cobalt	0.0	0.0	NC	0-20	0.0	535	500	107.0	80-120
Copper	0.0	0.0	NC	0-20	0.0	282	250	112.8	80-120
Iron	0.0	0.0	NC	0-20	0.0	25800	26000	99.2	80-120
Lead	0.0	0.0 (a)	NC	0-20	0.0	547 (a)	500	109.4	80-120
Magnesium	18300	19000	3.8	0-20	18300	42400	25000	96.4	80-120
Manganese	44.4	45.9	3.3	0-20	44.4	588	500	108.7	80-120
Molybdenum									
Nickel	0.0	0.0	NC	0-20	0.0	544	500	108.8	80-120
Potassium	6820	7150	4.7	0-20	6820	38800	25000	127.9N(d	80-120
Selenium	7.1	16.6 (a)	1.8	0-20	7.1	2240 (a)	2000	111.2	80-120
Silver	0.0	0.0	NC	0-20	0.0	47.2	50	94.4	80-120
Sodium	13300	13900	4.4	0-20	13300	41100	25000	111.2	80-120
Thallium	0.0	0.0	NC	0-20	0.0	2110	2000	105.5	80-120
Tin									
Vanadium	61.6	64.2	4.1	0-20	61.6	586	500	104.9	80-120
Zinc	0.0	0.0	NC	0-20	0.0	534	500	106.8	80-120

Associated samples MP16681: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Elevated reporting limit(s) due to matrix interference.
(b) RPD acceptable due to low duplicate and sample concentrations.
(c) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(d) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	27200	27000	100.7	80-120
Antimony	558	500	111.6	80-120
Arsenic	2160	2000	108.0	80-120
Barium	2230	2000	111.5	80-120
Beryllium	58.7	50	117.4	80-120
Cadmium	57.7	50	115.4	80-120
Calcium	27300	25000	109.2	80-120
Chromium	230	200	115.0	80-120
Cobalt	575	500	115.0	80-120
Copper	297	250	118.8	80-120
Iron	27300	26000	105.0	80-120
Lead	573	500	114.6	80-120
Magnesium	25700	25000	102.8	80-120
Manganese	578	500	115.6	80-120
Molybdenum				
Nickel	586	500	117.2	80-120
Potassium	25700	25000	102.8	80-120
Selenium	2180	2000	109.0	80-120
Silver	46.1	50	92.2	80-120
Sodium	25100	25000	100.4	80-120
Thallium	2240	2000	112.0	80-120
Tin				
Vanadium	547	500	109.4	80-120
Zinc	597	500	119.4	80-120

Associated samples MP16681: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16681
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/15/09

Metal	F66576-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	26.2	66.6	154.3(a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	15.1	0.00	100.0(a)	0-10
Barium	34.6	34.4	0.6	0-10
Beryllium	0.00	0.00	NC	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	566000	671000	12.2*(b)	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	0.00	0.00	NC	0-10
Iron	0.00	0.00	NC	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	18300	19700	7.6	0-10
Manganese	44.4	47.7	7.5	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Potassium	6820	6400	6.2	0-10
Selenium	7.06	0.00	100.0(a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium	13300	11200	15.5 (a)	0-10
Thallium	0.00	0.00	NC	0-10
Tin				
Vanadium	61.6	66.3	7.7	0-10
Zinc	0.00	0.00	NC	0-10

Associated samples MP16681: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	1.0	.14	.15	0.030	<1.0

Associated samples MP16685: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09 07/16/09

Metal	F66651-1 Original	DUP	RPD	QC Limits	F66651-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	3.1	3	103.3	80-120

Associated samples MP16685: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.2.2

8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	F66651-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	3.3	20

Associated samples MP16685: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.2.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.2	3	106.7	80-120

Associated samples MP16685: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.3

8

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	F66651-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16685: F66619-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.2.4

8

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: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN35825	100	0.0	mg/l				

Associated Samples:
Batch GN35825: F66619-1
(*) Outside of QC limits

9.1
9

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F66619
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN35825	F66500-2	mg/l	6170	6480	4.9	0-5%

Associated Samples:
Batch GN35825: F66619-1
(*) Outside of QC limits

9.2

9

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/30/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66653

Sampling Dates: 07/13/09 - 07/14/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **140**

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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

Client Service contact: Jean Dent-Smith 407-425-6700

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

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Accutest LabLink@92290 15:56 30-Jul-2009

Sample Summary

Nation View

Job No: F66653

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66653-1	07/14/09	09:30	CM	07/15/09	AQ	Ground Water	SWMU 122-MW04
F66653-2	07/14/09	08:55	CM	07/15/09	AQ	Ground Water	SWMU 122-MW02
F66653-3	07/14/09	10:45	CM	07/15/09	AQ	Ground Water	SWMU 122-MW03
F66653-4	07/13/09	13:30	CM	07/15/09	AQ	Ground Water	SWMU 122-MW07
F66653-5	07/13/09	15:35	CM	07/15/09	AQ	Ground Water	SWMU 122-MW01
F66653-6	07/13/09	15:40	CM	07/15/09	AQ	Ground Water	SWMU 122-MW08
F66653-7	07/14/09	09:30	CM	07/15/09	AQ	Ground Water	TRIP BLANK-COOLER 1
F66653-8	07/14/09	08:55	CM	07/15/09	AQ	Ground Water	TRIP BLANK-COOLER 2
F66653-9	07/14/09	10:45	CM	07/15/09	AQ	Ground Water	TRIP BLANK-COOLER 3
F66653-10	07/13/09	13:30	CM	07/15/09	AQ	Ground Water	TRIP BLANK-COOLER 4
F66653-11	07/13/09	15:35	CM	07/15/09	AQ	Ground Water	TRIP BLANK-COOLER 5
F66653-12	07/13/09	15:40	CM	07/15/09	AQ	Ground Water	TRIP BLANK-COOLER 6

Sample Results

Report of Analysis

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061421.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	0.50	1.0	0.28	ug/l	J
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

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N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	105%		76-127%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	106%		84-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	R19229.D	1	07/22/09	RB	07/18/09	OP29648	SR926
Run #2 [b]	X007013.D	1	07/28/09	NAF	07/27/09	OP29736	SX369

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2	1040 ml	1.0 ml

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	24	9.6	ug/l	
95-57-8	2-Chlorophenol	ND	4.8	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.8	0.96	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.8	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.8	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	24	9.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.6	3.8	ug/l	
95-48-7	2-Methylphenol	ND	4.8	0.96	ug/l	
	3&4-Methylphenol	ND	4.8	0.96	ug/l	
88-75-5	2-Nitrophenol	ND	4.8	1.2	ug/l	
100-02-7	4-Nitrophenol	ND	24	9.6	ug/l	
87-86-5	Pentachlorophenol	ND	24	9.6	ug/l	
108-95-2	Phenol	ND	4.8	0.96	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.8	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.8	1.3	ug/l	
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
92-87-5	Benzidine	ND	24	9.6	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.8	0.96	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.8	0.96	ug/l	
100-51-6	Benzyl Alcohol	ND	4.8	0.96	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.8	0.96	ug/l	
106-47-8	4-Chloroaniline	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.8	0.96	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.8	0.96	ug/l	

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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.8	0.96	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.8	0.96	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.8	0.96	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.8	0.96	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.8	0.96	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.8	0.96	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.8	0.96	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.6	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
132-64-9	Dibenzofuran	ND	4.8	0.96	ug/l	
84-74-2	Di-n-butyl phthalate	1.1	4.8	0.96	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	4.8	1.4	ug/l	
84-66-2	Diethyl phthalate	4.0	4.8	1.9	ug/l	J
131-11-3	Dimethyl phthalate	ND	4.8	0.96	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
118-74-1	Hexachlorobenzene	ND	4.8	0.96	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.8	2.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.8	1.2	ug/l	
67-72-1	Hexachloroethane	ND	4.8	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
78-59-1	Isophorone	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
88-74-4	2-Nitroaniline	ND	9.6	1.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.6	1.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.6	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
98-95-3	Nitrobenzene	ND	4.8	0.96	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.8	0.96	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	28%	39%	14-62%
4165-62-2	Phenol-d5	19%	28%	10-40%
118-79-6	2,4,6-Tribromophenol	81%	82%	33-118%

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N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	63%	73%	42-108%
321-60-8	2-Fluorobiphenyl	63%	73%	40-106%
1718-51-0	Terphenyl-d14	31%	53%	39-121%

(a) Confirmed by re-extraction and reanalysis beyond holdtime.
(b) Confirmation run.

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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

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089183.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	85%		57-129%
98-08-8	aaa-Trifluorotoluene	85%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046492.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	99%		38-127%
2051-24-3	Decachlorobiphenyl	55%		25-137%

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N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26990.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.24	0.096	mg/l	
	TPH (> C22-C36)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		42-114%

ND = Not detected MDL - Method Detection Limit
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J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	11.4 J	200	11	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Arsenic	6.0 J	10	5.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Barium	33.3 J	200	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	464000	1000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Chromium	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	3.1 J	50	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	1210	300	23	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Magnesium	252000	5000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	1150	15	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	17.2 J	40	2.3	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	27400	10000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium	12.0	10	3.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	600000	100000	5000	ug/l	10	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium	3.6 U	10	3.6	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	9.3 J	50	0.90	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	13.0 J	20	7.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7365
(2) Instrument QC Batch: MA7373
(3) Instrument QC Batch: MA7376
(4) Prep QC Batch: MP16685
(5) Prep QC Batch: MP16703

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW04		
Lab Sample ID:	F66653-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	3690	1000	100	mg/l	10	07/16/09 15:00	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061422.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	

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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

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Report of Analysis

Client Sample ID:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	1.2	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

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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:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	103%		76-127%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

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N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R19230.D	1	07/22/09	RB	07/18/09	OP29648	SR926
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	

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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:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	31%		14-62%
4165-62-2	Phenol-d5	20%		10-40%
118-79-6	2,4,6-Tribromophenol	76%		33-118%

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RL = Reporting Limit
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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:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		42-108%
321-60-8	2-Fluorobiphenyl	64%		40-106%
1718-51-0	Terphenyl-d14	67%		39-121%

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N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089184.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		57-129%
98-08-8	aaa-Trifluorotoluene	85%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046493.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.51	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.51	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.51	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.51	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.51	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.51	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.51	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	113%		38-127%
2051-24-3	Decachlorobiphenyl	100%		25-137%

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Report of Analysis

Client Sample ID:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26991.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.24	0.096	mg/l	
	TPH (> C22-C36)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	98%		42-114%

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Report of Analysis

Client Sample ID:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	11 U	200	11	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Arsenic	12.9	10	5.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Barium	17.5 J	200	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	485000	1000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Chromium	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	1.0 U	50	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	23 U	300	23	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Magnesium	261000	5000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	80.1	15	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	4.1 J	40	2.3	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	33300	10000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium	15.7	10	3.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	374000	100000	5000	ug/l	10	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium	3.6 U	10	3.6	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	39.3 J	50	0.90	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	7.4 U	20	7.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7365
(2) Instrument QC Batch: MA7373
(3) Instrument QC Batch: MA7376
(4) Prep QC Batch: MP16685
(5) Prep QC Batch: MP16703

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW02		
Lab Sample ID:	F66653-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	4990	1000	100	mg/l	10	07/16/09 15:00	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061423.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	105%		84-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R19231.D	1	07/22/09	RB	07/18/09	OP29648	SR926
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	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:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	4.8	5.0	2.0	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	31%		14-62%
4165-62-2	Phenol-d5	20%		10-40%
118-79-6	2,4,6-Tribromophenol	76%		33-118%

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:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		42-108%
321-60-8	2-Fluorobiphenyl	64%		40-106%
1718-51-0	Terphenyl-d14	55%		39-121%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089185.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	83%		57-129%
98-08-8	aaa-Trifluorotoluene	84%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046494.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	87%		38-127%
2051-24-3	Decachlorobiphenyl	57%		25-137%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26992.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	0.130	0.24	0.096	mg/l	J
	TPH (> C22-C36)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		42-114%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	11 U	200	11	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony [a]	9.0 U	12	9.0	ug/l	2	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Arsenic [a]	11.8 J	20	11	ug/l	2	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Barium	37.0 J	200	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	571000	2000	200	ug/l	2	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Chromium	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	5.4 J	50	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	32.3 J	300	23	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	5.1 J	10	4.0	ug/l	2	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Magnesium	188000	5000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	2490	15	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	19.2 J	40	2.3	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	17800	10000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium [a]	13.5 J	20	6.8	ug/l	2	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	145000	40000	2000	ug/l	4	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium	3.6 U	10	3.6	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	51.4	50	0.90	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	10.4 J	20	7.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7365
(2) Instrument QC Batch: MA7373
(3) Instrument QC Batch: MA7376
(4) Prep QC Batch: MP16685
(5) Prep QC Batch: MP16703

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW03		
Lab Sample ID:	F66653-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	1750	100	10	mg/l	1	07/16/09 15:00	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061424.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	

ND = Not detected MDL - Method Detection Limit
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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

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Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	101%		86-112%
460-00-4	4-Bromofluorobenzene	106%		84-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R19232.D	1	07/22/09	RB	07/18/09	OP29648	SR926
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	24	9.6	ug/l	
95-57-8	2-Chlorophenol	ND	4.8	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.8	0.96	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.8	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.8	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	24	9.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.6	3.8	ug/l	
95-48-7	2-Methylphenol	ND	4.8	0.96	ug/l	
	3&4-Methylphenol	ND	4.8	0.96	ug/l	
88-75-5	2-Nitrophenol	ND	4.8	1.2	ug/l	
100-02-7	4-Nitrophenol	ND	24	9.6	ug/l	
87-86-5	Pentachlorophenol	ND	24	9.6	ug/l	
108-95-2	Phenol	ND	4.8	0.96	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.8	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.8	1.3	ug/l	
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
92-87-5	Benzidine	ND	24	9.6	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.8	0.96	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.8	0.96	ug/l	
100-51-6	Benzyl Alcohol	ND	4.8	0.96	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.8	0.96	ug/l	
106-47-8	4-Chloroaniline	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.8	0.96	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.8	0.96	ug/l	

ND = Not detected MDL - Method Detection Limit
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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.8	0.96	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.8	0.96	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.8	0.96	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.8	0.96	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.8	0.96	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.8	0.96	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.8	0.96	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.6	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
132-64-9	Dibenzofuran	ND	4.8	0.96	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.8	0.96	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.8	1.4	ug/l	
84-66-2	Diethyl phthalate	2.9	4.8	1.9	ug/l	J
131-11-3	Dimethyl phthalate	ND	4.8	0.96	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
118-74-1	Hexachlorobenzene	ND	4.8	0.96	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.8	2.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.8	1.2	ug/l	
67-72-1	Hexachloroethane	ND	4.8	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
78-59-1	Isophorone	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
88-74-4	2-Nitroaniline	ND	9.6	1.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.6	1.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.6	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
98-95-3	Nitrobenzene	ND	4.8	0.96	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.8	0.96	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	30%		14-62%
4165-62-2	Phenol-d5	20%		10-40%
118-79-6	2,4,6-Tribromophenol	79%		33-118%

ND = Not detected MDL - Method Detection Limit
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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:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		42-108%
321-60-8	2-Fluorobiphenyl	73%		40-106%
1718-51-0	Terphenyl-d14	54%		39-121%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089190.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	85%		57-129%
98-08-8	aaa-Trifluorotoluene	84%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046495.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	95%		38-127%
2051-24-3	Decachlorobiphenyl	72%		25-137%

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J = Indicates an estimated value
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N = Indicates presumptive evidence of a compound

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26995.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.24	0.096	mg/l	
	TPH (> C22-C36)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		42-114%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	15.4 J	200	11	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Arsenic	7.8 J	10	5.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Barium	54.8 J	200	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	477000	1000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Chromium	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	5.1 J	50	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	526	300	23	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Magnesium	297000	5000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	726	15	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	31.4 J	40	2.3	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	28800	10000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium	14.4	10	3.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	604000	100000	5000	ug/l	10	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium	3.6 U	10	3.6	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	15.4 J	50	0.90	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	14.6 J	20	7.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7365
(2) Instrument QC Batch: MA7373
(3) Instrument QC Batch: MA7376
(4) Prep QC Batch: MP16685
(5) Prep QC Batch: MP16703

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW07		
Lab Sample ID:	F66653-4	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	5320	1000	100	mg/l	10	07/16/09 15:00	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	B061425.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	12.8	25	10	ug/l	J
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	1.6	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	

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N = Indicates presumptive evidence of a compound

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

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B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	104%		84-120%

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.

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Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R19233.D	1	07/22/09	RB	07/18/09	OP29648	SR926
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	

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Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	2.1	5.0	2.0	ug/l	J
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	37%		14-62%
4165-62-2	Phenol-d5	24%		10-40%
118-79-6	2,4,6-Tribromophenol	79%		33-118%

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:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		42-108%
321-60-8	2-Fluorobiphenyl	70%		40-106%
1718-51-0	Terphenyl-d14	52%		39-121%

ND = Not detected MDL - Method Detection Limit
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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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089191.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		57-129%
98-08-8	aaa-Trifluorotoluene	87%		58-120%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046496.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.51	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.51	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.51	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.51	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.51	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.51	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.51	0.25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	105%		38-127%
2051-24-3	Decachlorobiphenyl	73%		25-137%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26998.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.24	0.096	mg/l	
	TPH (> C22-C36)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	81%		42-114%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	25.8 J	200	11	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Arsenic	10.7	10	5.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Barium	27.5 J	200	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	468000	1000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Chromium	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	1.6 J	50	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	784	300	23	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Magnesium	244000	5000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	472	15	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	8.5 J	40	2.3	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	29600	10000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium	15.5	10	3.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	251000	50000	2500	ug/l	5	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium	3.6 U	10	3.6	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	17.8 J	50	0.90	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	13.6 J	20	7.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7365
(2) Instrument QC Batch: MA7373
(3) Instrument QC Batch: MA7376
(4) Prep QC Batch: MP16685
(5) Prep QC Batch: MP16703

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW01		
Lab Sample ID:	F66653-5	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	3890	1000	100	mg/l	10	07/16/09 15:00	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061426.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	105%		76-127%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R19234.D	1	07/22/09	RB	07/18/09	OP29648	SR926
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	24	9.6	ug/l	
95-57-8	2-Chlorophenol	ND	4.8	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.8	0.96	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.8	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.8	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	24	9.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.6	3.8	ug/l	
95-48-7	2-Methylphenol	ND	4.8	0.96	ug/l	
	3&4-Methylphenol	ND	4.8	0.96	ug/l	
88-75-5	2-Nitrophenol	ND	4.8	1.2	ug/l	
100-02-7	4-Nitrophenol	ND	24	9.6	ug/l	
87-86-5	Pentachlorophenol	ND	24	9.6	ug/l	
108-95-2	Phenol	ND	4.8	0.96	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.8	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.8	1.3	ug/l	
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
92-87-5	Benzidine	ND	24	9.6	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.8	0.96	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.8	0.96	ug/l	
100-51-6	Benzyl Alcohol	ND	4.8	0.96	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.8	0.96	ug/l	
106-47-8	4-Chloroaniline	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.8	0.96	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.8	0.96	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.8	0.96	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.8	0.96	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.8	0.96	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.8	0.96	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.8	0.96	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.8	0.96	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.8	0.96	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.6	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
132-64-9	Dibenzofuran	ND	4.8	0.96	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.8	0.96	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.8	1.4	ug/l	
84-66-2	Diethyl phthalate	ND	4.8	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.8	0.96	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
118-74-1	Hexachlorobenzene	ND	4.8	0.96	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.8	2.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.8	1.2	ug/l	
67-72-1	Hexachloroethane	ND	4.8	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
78-59-1	Isophorone	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
88-74-4	2-Nitroaniline	ND	9.6	1.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.6	1.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.6	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
98-95-3	Nitrobenzene	ND	4.8	0.96	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.8	0.96	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	28%		14-62%
4165-62-2	Phenol-d5	19%		10-40%
118-79-6	2,4,6-Tribromophenol	81%		33-118%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		42-108%
321-60-8	2-Fluorobiphenyl	67%		40-106%
1718-51-0	Terphenyl-d14	56%		39-121%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089192.D	1	07/16/09	SL	n/a	n/a	GCD3759
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	83%		57-129%
98-08-8	aaa-Trifluorotoluene	84%		58-120%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046497.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	97%		38-127%
2051-24-3	Decachlorobiphenyl	80%		25-137%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL26999.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.24	0.096	mg/l	
	TPH (> C22-C36)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	92%		42-114%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	11 U	200	11	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Arsenic	17.1	10	5.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Barium	26.8 J	200	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	447000	1000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Chromium	3.4 J	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	1.0 U	50	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	23 U	300	23	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Magnesium	336000	5000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	44.4	15	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/16/09	07/16/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	4.8 J	40	2.3	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	57200	10000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium	10.1	10	3.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	597000	100000	5000	ug/l	10	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium	3.6 U	10	3.6	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	56.0	50	0.90	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	10.4 J	20	7.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7365
(2) Instrument QC Batch: MA7373
(3) Instrument QC Batch: MA7376
(4) Prep QC Batch: MP16685
(5) Prep QC Batch: MP16703

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW08		
Lab Sample ID:	F66653-6	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	6450	1000	100	mg/l	10	07/16/09 15:00	LE	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 1		
Lab Sample ID:	F66653-7	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061427.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 1		
Lab Sample ID:	F66653-7	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 1		
Lab Sample ID:	F66653-7	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 2		
Lab Sample ID:	F66653-8	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061428.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 2		
Lab Sample ID:	F66653-8	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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-COOLER 2		
Lab Sample ID:	F66653-8	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 3		
Lab Sample ID:	F66653-9	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061429.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 3		
Lab Sample ID:	F66653-9	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 3		
Lab Sample ID:	F66653-9	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	105%		76-127%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	105%		84-120%

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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 4		
Lab Sample ID:	F66653-10	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061416.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 4		
Lab Sample ID:	F66653-10	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	1.2	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 4		
Lab Sample ID:	F66653-10	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 5		
Lab Sample ID:	F66653-11	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061417.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 5		
Lab Sample ID:	F66653-11	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	1.3	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 5		
Lab Sample ID:	F66653-11	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	106%		84-120%

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 LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 6		
Lab Sample ID:	F66653-12	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B061418.D	1	07/21/09	AJ	n/a	n/a	VB2567
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 6		
Lab Sample ID:	F66653-12	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	1.2	5.0	1.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92290 15:56 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 6		
Lab Sample ID:	F66653-12	**Date Sampled:**	07/13/09
Matrix:	AQ - Ground Water	**Date Received:**	07/15/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	110%		84-120%

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:

- Certification Exceptions
- Chain of Custody

F66653

NATIONVIEW

PO#: 09-0112

Page: 1 of 2

NationView Project No: 8080014.02.020

COC Number[1]: 7-14-09

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122/123

Client Name: USACE

Collected by: Craig McGriff, Dustin McNeil, Zack Beck

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU 122-MW04		14-July-2009	0930	-	N		WG	14	X	X	X	X	X	X								1
2	SWMU 122-MW02		14-July-2009	0855	-	N		WG	14	X	X	X	X	X	X								2
3	SWMU 122-MW03		14-July-2009	1045	-	N		WG	14	X	X	X	X	X	X								3
4	SWMU 122-MW07		13-July-2009	1330		N		WG	14	X	X	X	X	X	X								4
5	SWMU 122-MW01		13-July-2009	1535		N		WG	14	X	X	X	X	X	X								5
6	SWMU 122-MW08		13-July-2009	1540	-	N		WG	14	X	X	X	X	X	X								6
7	Trip Blank-Cooler 2		14-July-2009	0930	-	TB		WQ	2	X													1
8	Trip Blank-Cooler 2		14-July-2009	0855	-	TB		WQ	2	X													2
9	Trip Blank-Cooler 3		14-July-2009	1045	-	TB		WQ	2	X													3
10	Trip Blank-Cooler 4		13-July-2009	1330	-	TB		WQ	2	X													4
11	Trip Blank-Cooler 5		13-July-2009	1535	-	TB		WQ	2	X													5

Sample Analysis Requested [5]

Quality Assurance Samples [6]

COMMENTS: * SWMU-MW07 have half volumes of SVOCs, PCBs and DRO/ORO due to poor recharge rate on well.

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	[signature]	7/14/09	1500	[signature]		
2.	[signature]	7/15/09	9:00	[signature] Accutest	7/15/09	9:00
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab:

Shipped No.:

Method of Shipment:

Airbill Number:

Analytical Lab:

Delivery Location:

Lab Recipient:

Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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 10109901 in the Equipment Blank Lot Control

2.6 3.0 4.0 3.6 28 3.

F66653: Chain of Custody

Page 1 of 3

F66653

NATIONVIEW

Page: 2 of 2

NationView Project No: 8080014.02.020

COC Number[1]: 7-14-09

LIMS Number:

Chain of Custody and Analytical Request

Facility/Base I.D.: Hollomon AFB

Project/Site Name: SWMU 122/123

Client Name: USACE

Collected by: Craig McGriff, Dustin McNeil, Zack Beck

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of Containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
12	Trip Blank-Cooler 6		13-July-2009	1540	-	TB		WQ	2	X													6

COMMENTS:

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	[signature]	7/14/09	9:00	[signature]		
2.	[signature]	7/15/09	9:00	[signature] Accutest	7/15/09	9:00
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Airbill Number:

Analytical Lab: Delivery Location:

Lab Recipient: Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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 101099001 in the Equipment Blank Lot Control

2.6 3.0 4.0 3.6 2.8

3.0

F66653: Chain of Custody

Page 2 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66653 CLIENT: Nationview PROJECT: SWMU 122

DATE/TIME RECEIVED: 7/15/09 9:00 # OF COOLERS RECEIVED: 6 COOLER TEMPS:

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

AIRBILL NUMBERS: 2.6 3.0 4.0 3.6 2.8 3.0

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

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

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OF LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS: Sample 4 recieved 2 unpreserved And 1 EC Pro Ambers broken

TECHNICIAN SIGNATURE/DATE [signature] 7/15/09 TECHNICIAN SIGNATURE/DATE E.T. 7-15-09

ASBD 12/17/07

F66653: Chain of Custody
Page 3 of 3

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: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2567-MB	B061409.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	

Method Blank Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2567-MB	B061409.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

Method Blank Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2567-MB	B061409.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	100%	87-116%
17060-07-0	1,2-Dichloroethane-D4	102%	76-127%
2037-26-5	Toluene-D8	103%	86-112%
460-00-4	4-Bromofluorobenzene	107%	84-120%

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2567-BS	B061408.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	83.2	67	59-134
107-02-8	Acrolein	125	75.8	61	33-157
107-13-1	Acrylonitrile	125	133	106	62-124
71-43-2	Benzene	25	25.3	101	83-124
108-86-1	Bromobenzene	25	22.0	88	83-115
74-97-5	Bromochloromethane	25	22.7	91	78-112
75-27-4	Bromodichloromethane	25	23.4	94	76-116
75-25-2	Bromoform	25	23.5	94	68-128
104-51-8	n-Butylbenzene	25	25.8	103	84-124
135-98-8	sec-Butylbenzene	25	25.7	103	86-127
98-06-6	tert-Butylbenzene	25	24.6	98	83-126
108-90-7	Chlorobenzene	25	23.6	94	87-115
75-00-3	Chloroethane	25	25.7	103	54-166
67-66-3	Chloroform	25	24.7	99	85-123
95-49-8	o-Chlorotoluene	25	24.0	96	84-121
106-43-4	p-Chlorotoluene	25	23.9	96	84-120
110-75-8	2-Chloroethyl vinyl ether	125	115	92	63-125
75-15-0	Carbon disulfide	25	26.0	104	67-147
56-23-5	Carbon tetrachloride	25	28.4	114	74-139
75-34-3	1,1-Dichloroethane	25	25.5	102	82-127
75-35-4	1,1-Dichloroethylene	25	25.5	102	75-133
563-58-6	1,1-Dichloropropene	25	25.9	104	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	21.3	85	61-118
106-93-4	1,2-Dibromoethane	25	22.7	91	80-115
107-06-2	1,2-Dichloroethane	25	22.3	89	76-122
78-87-5	1,2-Dichloropropane	25	23.7	95	81-120
142-28-9	1,3-Dichloropropane	25	23.1	92	81-113
594-20-7	2,2-Dichloropropane	25	27.4	110	77-138
124-48-1	Dibromochloromethane	25	23.7	95	74-116
75-71-8	Dichlorodifluoromethane	25	15.9	64	34-158
156-59-2	cis-1,2-Dichloroethylene	25	23.4	94	81-114
10061-01-5	cis-1,3-Dichloropropene	25	24.6	98	83-119
541-73-1	m-Dichlorobenzene	25	23.0	92	86-115
95-50-1	o-Dichlorobenzene	25	22.7	91	85-115
106-46-7	p-Dichlorobenzene	25	22.2	89	87-113
156-60-5	trans-1,2-Dichloroethylene	25	25.7	103	82-126

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2567-BS	B061408.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	25	26.2	105	87-123
100-41-4	Ethylbenzene	25	25.5	102	87-118
591-78-6	2-Hexanone	125	95.4	76	58-125
87-68-3	Hexachlorobutadiene	25	25.3	101	71-133
110-54-3	Hexane	25	28.9	116	71-134
98-82-8	Isopropylbenzene	25	26.0	104	87-131
99-87-6	p-Isopropyltoluene	25	25.3	101	83-125
108-10-1	4-Methyl-2-pentanone	125	120	96	62-125
74-83-9	Methyl bromide	25	24.8	99	55-151
74-87-3	Methyl chloride	25	23.4	94	55-173
74-95-3	Methylene bromide	25	23.8	95	81-116
75-09-2	Methylene chloride	25	25.4	102	69-125
78-93-3	Methyl ethyl ketone	125	97.3	78	61-127
1634-04-4	Methyl Tert Butyl Ether	25	24.2	97	75-116
91-20-3	Naphthalene	25	17.9	72	59-125
103-65-1	n-Propylbenzene	25	25.4	102	86-125
100-42-5	Styrene	25	23.4	94	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	24.0	96	81-119
71-55-6	1,1,1-Trichloroethane	25	26.6	106	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	22.4	90	71-120
79-00-5	1,1,2-Trichloroethane	25	23.0	92	80-114
87-61-6	1,2,3-Trichlorobenzene	25	22.2	89	64-126
96-18-4	1,2,3-Trichloropropane	25	20.6	82	77-115
120-82-1	1,2,4-Trichlorobenzene	25	21.2	85	68-123
95-63-6	1,2,4-Trimethylbenzene	25	24.1	96	82-120
108-67-8	1,3,5-Trimethylbenzene	25	24.3	97	83-123
127-18-4	Tetrachloroethylene	25	24.5	98	80-131
108-88-3	Toluene	25	25.0	100	86-116
79-01-6	Trichloroethylene	25	24.2	97	85-124
75-69-4	Trichlorofluoromethane	25	28.5	114	66-156
75-01-4	Vinyl chloride	25	26.0	104	57-153
108-05-4	Vinyl Acetate	125	134	107	38-159
	m,p-Xylene	50	52.4	105	86-121
95-47-6	o-Xylene	25	24.8	99	83-121

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB2567-BS	B061408.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	87-116%
17060-07-0	1,2-Dichloroethane-D4	98%	76-127%
2037-26-5	Toluene-D8	101%	86-112%
460-00-4	4-Bromofluorobenzene	97%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66717-14MS	B061419.D	1	07/21/09	AJ	n/a	n/a	VB2567
F66717-14MSD	B061420.D	1	07/21/09	AJ	n/a	n/a	VB2567
F66717-14	B061415.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Compound	F66717-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	72.3	58*	80.5	64	11	59-134/14
107-02-8	Acrolein	ND		125	66.4	53	65.5	52	1	33-157/21
107-13-1	Acrylonitrile	ND		125	134	107	141	113	5	62-124/13
71-43-2	Benzene	13.7		25	39.7	104	40.3	106	1	83-124/11
108-86-1	Bromobenzene	ND		25	21.0	84	21.4	86	2	83-115/10
74-97-5	Bromochloromethane	ND		25	22.2	89	22.3	89	0	78-112/10
75-27-4	Bromodichloromethane	ND		25	23.0	92	23.4	94	2	76-116/10
75-25-2	Bromoform	ND		25	22.5	90	23.1	92	3	68-128/11
104-51-8	n-Butylbenzene	1.2		25	27.0	103	27.3	104	1	84-124/10
135-98-8	sec-Butylbenzene	ND		25	25.2	101	25.6	102	2	86-127/10
98-06-6	tert-Butylbenzene	ND		25	23.9	96	24.3	97	2	83-126/10
108-90-7	Chlorobenzene	ND		25	24.1	96	23.6	94	2	87-115/9
75-00-3	Chloroethane	ND		25	25.8	103	26.7	107	3	54-166/20
67-66-3	Chloroform	ND		25	24.5	98	24.5	98	0	85-123/10
95-49-8	o-Chlorotoluene	ND		25	23.1	92	23.5	94	2	84-121/10
106-43-4	p-Chlorotoluene	ND		25	22.7	91	22.8	91	0	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		25	25.1	100	26.1	104	4	67-147/12
56-23-5	Carbon tetrachloride	ND		25	27.9	112	28.5	114	2	74-139/13
75-34-3	1,1-Dichloroethane	ND		25	25.7	103	25.7	103	0	82-127/10
75-35-4	1,1-Dichloroethylene	ND		25	24.3	97	26.3	105	8	75-133/13
563-58-6	1,1-Dichloropropene	ND		25	25.6	102	26.2	105	2	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	22.1	88	23.0	92	4	61-118/15
106-93-4	1,2-Dibromoethane	ND		25	22.0	88	22.8	91	4	80-115/10
107-06-2	1,2-Dichloroethane	ND		25	22.4	90	22.5	90	0	76-122/11
78-87-5	1,2-Dichloropropane	ND		25	23.7	95	23.7	95	0	81-120/11
142-28-9	1,3-Dichloropropane	ND		25	22.9	92	23.2	93	1	81-113/11
594-20-7	2,2-Dichloropropane	ND		25	26.9	108	27.0	108	0	77-138/12
124-48-1	Dibromochloromethane	ND		25	23.0	92	23.3	93	1	74-116/11
75-71-8	Dichlorodifluoromethane	ND		25	13.7	55	15.7	63	14	34-158/22
156-59-2	cis-1,2-Dichloroethylene	ND		25	23.0	92	23.4	94	2	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	23.5	94	23.9	96	2	83-119/10
541-73-1	m-Dichlorobenzene	ND		25	22.5	90	22.6	90	0	86-115/9
95-50-1	o-Dichlorobenzene	ND		25	22.1	88	22.8	91	3	85-115/9
106-46-7	p-Dichlorobenzene	ND		25	21.5	86*	21.8	87	1	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		25	25.5	102	25.8	103	1	82-126/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66717-14MS	B061419.D	1	07/21/09	AJ	n/a	n/a	VB2567
F66717-14MSD	B061420.D	1	07/21/09	AJ	n/a	n/a	VB2567
F66717-14	B061415.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Compound	F66717-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		25	25.2	101	25.9	104	3	87-123/10
100-41-4	Ethylbenzene	34.1		25	61.3	109	60.2	104	2	87-118/10
591-78-6	2-Hexanone	ND		125	96.7	77	99.5	80	3	58-125/14
87-68-3	Hexachlorobutadiene	ND		25	23.1	92	23.3	93	1	71-133/12
110-54-3	Hexane	ND		25	28.6	114	31.3	125	9	71-134/11
98-82-8	Isopropylbenzene	4.3		25	29.8	102	30.4	104	2	87-131/10
99-87-6	p-Isopropyltoluene	ND		25	24.3	97	24.8	99	2	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		125	123	98	129	103	5	62-125/13
74-83-9	Methyl bromide	ND		25	23.8	95	25.8	103	8	55-151/21
74-87-3	Methyl chloride	ND		25	22.2	89	24.4	98	9	55-173/22
74-95-3	Methylene bromide	ND		25	23.9	96	24.1	96	1	81-116/10
75-09-2	Methylene chloride	ND		25	24.5	98	24.5	98	0	69-125/11
78-93-3	Methyl ethyl ketone	ND		125	95.6	76	102	82	6	61-127/13
1634-04-4	Methyl Tert Butyl Ether	ND		25	22.9	92	24.3	97	6	75-116/10
91-20-3	Naphthalene	ND		25	19.4	78	19.6	78	1	59-125/15
103-65-1	n-Propylbenzene	ND		25	28.0	112	28.2	113	1	86-125/10
100-42-5	Styrene	ND		25	23.2	93	22.7	91	2	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	23.3	93	23.1	92	1	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		25	26.2	105	26.8	107	2	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	22.4	90	23.6	94	5	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		25	22.6	90	23.0	92	2	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		25	20.5	82	19.4	78	6	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		25	20.1	80	21.0	84	4	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		25	20.6	82	20.4	82	1	68-123/11
95-63-6	1,2,4-Trimethylbenzene	16.6		25	39.7	92	40.4	95	2	82-120/10
108-67-8	1,3,5-Trimethylbenzene	1.8	J	25	24.4	90	24.7	92	1	83-123/10
127-18-4	Tetrachloroethylene	ND		25	23.9	96	24.0	96	0	80-131/12
108-88-3	Toluene	1.0		25	25.7	99	25.8	99	0	86-116/10
79-01-6	Trichloroethylene	ND		25	23.3	93	24.2	97	4	85-124/10
75-69-4	Trichlorofluoromethane	ND		25	27.8	111	30.0	120	8	66-156/15
75-01-4	Vinyl chloride	ND		25	24.2	97	26.8	107	10	57-153/22
108-05-4	Vinyl Acetate	ND		125	142	114	148	118	4	38-159/11
	m,p-Xylene	28.1		50	82.6	109	81.3	106	2	86-121/10
95-47-6	o-Xylene	0.65	J	25	25.7	100	25.2	98	2	83-121/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66717-14MS	B061419.D	1	07/21/09	AJ	n/a	n/a	VB2567
F66717-14MSD	B061420.D	1	07/21/09	AJ	n/a	n/a	VB2567
F66717-14	B061415.D	1	07/21/09	AJ	n/a	n/a	VB2567

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

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6, F66653-7, F66653-8, F66653-9, F66653-10, F66653-11, F66653-12

CAS No.	Surrogate Recoveries	MS	MSD	F66717-14	Limits
1868-53-7	Dibromofluoromethane	101%	101%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	101%	103%	101%	76-127%
2037-26-5	Toluene-D8	100%	100%	101%	86-112%
460-00-4	4-Bromofluorobenzene	95%	97%	102%	84-120%

GC/MS Semi-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: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	R19228.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	R19228.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	41%	14-62%
4165-62-2	Phenol-d5	28%	10-40%

Method Blank Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	R19228.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	83%	33-118%
4165-60-0	Nitrobenzene-d5	76%	42-108%
321-60-8	2-Fluorobiphenyl	75%	40-106%
1718-51-0	Terphenyl-d14	78%	39-121%

Method Blank Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	L044601.D	1	07/23/09	RB	07/18/09	OP29648	SL2269

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	L044601.D	1	07/23/09	RB	07/18/09	OP29648	SL2269

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	38%	14-62%
4165-62-2	Phenol-d5	26%	10-40%

Method Blank Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	L044601.D	1	07/23/09	RB	07/18/09	OP29648	SL2269

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	90%	33-118%
4165-60-0	Nitrobenzene-d5	69%	42-108%
321-60-8	2-Fluorobiphenyl	78%	40-106%
1718-51-0	Terphenyl-d14	73%	39-121%

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-BS	R19227.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	14.8	15	10-50
95-57-8	2-Chlorophenol	50	40.9	82	44-103
59-50-7	4-Chloro-3-methyl phenol	50	43.8	88	53-105
120-83-2	2,4-Dichlorophenol	50	46.3	93	53-108
105-67-9	2,4-Dimethylphenol	50	38.5	77	37-91
51-28-5	2,4-Dinitrophenol	100	81.2	81	37-111
534-52-1	4,6-Dinitro-o-cresol	100	100	100	62-115
95-48-7	2-Methylphenol	50	34.4	69	35-91
	3&4-Methylphenol	100	63.9	64	32-85
88-75-5	2-Nitrophenol	50	45.3	91	49-111
100-02-7	4-Nitrophenol	100	39.9	40	13-55
87-86-5	Pentachlorophenol	100	95.5	96	57-118
108-95-2	Phenol	50	20.5	41	13-54
95-95-4	2,4,5-Trichlorophenol	50	44.2	88	59-106
88-06-2	2,4,6-Trichlorophenol	50	46.2	92	58-107
83-32-9	Acenaphthene	50	44.0	88	58-106
208-96-8	Acenaphthylene	50	42.4	85	58-105
120-12-7	Anthracene	50	42.4	85	65-108
92-87-5	Benzidine	50	33.0	66	15-73
56-55-3	Benzo(a)anthracene	50	45.8	92	63-111
50-32-8	Benzo(a)pyrene	50	45.5	91	62-106
205-99-2	Benzo(b)fluoranthene	50	46.2	92	63-109
191-24-2	Benzo(g,h,i)perylene	50	47.2	94	61-111
207-08-9	Benzo(k)fluoranthene	50	47.7	95	64-111
101-55-3	4-Bromophenyl phenyl ether	50	48.1	96	64-107
85-68-7	Butyl benzyl phthalate	50	51.5	103	59-114
100-51-6	Benzyl Alcohol	50	35.8	72	34-98
91-58-7	2-Chloronaphthalene	50	41.8	84	54-105
106-47-8	4-Chloroaniline	50	40.2	80	53-103
218-01-9	Chrysene	50	46.3	93	64-111
111-91-1	bis(2-Chloroethoxy)methane	50	45.5	91	48-101
111-44-4	bis(2-Chloroethyl)ether	50	43.3	87	51-108
108-60-1	bis(2-Chloroisopropyl)ether	50	48.8	98	43-106
7005-72-3	4-Chlorophenyl phenyl ether	50	45.7	91	61-107
95-50-1	1,2-Dichlorobenzene	50	39.8	80	41-102
541-73-1	1,3-Dichlorobenzene	50	38.2	76	38-100

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-BS	R19227.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-46-7	1,4-Dichlorobenzene	50	38.5	77	40-100
121-14-2	2,4-Dinitrotoluene	50	40.8	82	60-109
606-20-2	2,6-Dinitrotoluene	50	41.4	83	58-104
91-94-1	3,3'-Dichlorobenzidine	50	42.1	84	57-105
53-70-3	Dibenzo(a,h)anthracene	50	47.2	94	62-112
132-64-9	Dibenzofuran	50	42.4	85	61-108
84-74-2	Di-n-butyl phthalate	50	48.0	96	62-109
117-84-0	Di-n-octyl phthalate	50	54.9	110	60-120
84-66-2	Diethyl phthalate	50	46.3	93	62-109
131-11-3	Dimethyl phthalate	50	44.7	89	63-106
117-81-7	bis(2-Ethylhexyl)phthalate	50	54.1	108	59-116
206-44-0	Fluoranthene	50	43.1	86	65-114
86-73-7	Fluorene	50	44.0	88	61-106
118-74-1	Hexachlorobenzene	50	44.3	89	62-107
87-68-3	Hexachlorobutadiene	50	41.5	83	38-107
77-47-4	Hexachlorocyclopentadiene	50	35.5	71	19-84
67-72-1	Hexachloroethane	50	40.2	80	35-101
193-39-5	Indeno(1,2,3-cd)pyrene	50	45.7	91	61-113
78-59-1	Isophorone	50	40.0	80	56-111
91-57-6	2-Methylnaphthalene	50	42.8	86	56-112
88-74-4	2-Nitroaniline	50	44.5	89	60-109
99-09-2	3-Nitroaniline	50	41.3	83	52-107
100-01-6	4-Nitroaniline	50	41.3	83	59-111
91-20-3	Naphthalene	50	40.9	82	50-104
98-95-3	Nitrobenzene	50	42.1	84	52-105
621-64-7	N-Nitroso-di-n-propylamine	50	41.7	83	51-104
86-30-6	N-Nitrosodiphenylamine	50	42.6	85	57-110
85-01-8	Phenanthrene	50	45.9	92	65-108
129-00-0	Pyrene	50	46.2	92	60-113
120-82-1	1,2,4-Trichlorobenzene	50	39.1	78	45-104

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	52%	14-62%
4165-62-2	Phenol-d5	35%	10-40%

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-BS	R19227.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Surrogate Recoveries	BSP	Limits
118-79-6	2,4,6-Tribromophenol	87%	33-118%
4165-60-0	Nitrobenzene-d5	84%	42-108%
321-60-8	2-Fluorobiphenyl	82%	40-106%
1718-51-0	Terphenyl-d14	83%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MS	R19235.D	1	07/22/09	RB	07/18/09	OP29648	SR926
OP29648-MSD	R19236.D	1	07/22/09	RB	07/18/09	OP29648	SR926
F66653-6	R19234.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	F66653-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		192	87.4	45	89.5	47	2	10-50/40
95-57-8	2-Chlorophenol	ND		96.2	67.6	70	67.3	70	0	44-103/29
59-50-7	4-Chloro-3-methyl phenol	ND		96.2	78.3	81	78.7	82	1	53-105/24
120-83-2	2,4-Dichlorophenol	ND		96.2	75.9	79	75.4	78	1	53-108/26
105-67-9	2,4-Dimethylphenol	ND		96.2	60.1	63	61.4	64	2	37-91/28
51-28-5	2,4-Dinitrophenol	ND		192	158	82	158	82	0	37-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		192	176	92	178	93	1	62-115/26
95-48-7	2-Methylphenol	ND		96.2	60.1	63	60.5	63	1	35-91/30
	3&4-Methylphenol	ND		192	115	60	117	61	2	32-85/29
88-75-5	2-Nitrophenol	ND		96.2	74.9	78	73.5	76	2	49-111/30
100-02-7	4-Nitrophenol	ND		192	92.2	48	98.1	51	6	13-55/31
87-86-5	Pentachlorophenol	ND		192	185	96	188	98	2	57-118/26
108-95-2	Phenol	ND		96.2	39.6	41	41.8	43	5	13-54/34
95-95-4	2,4,5-Trichlorophenol	ND		96.2	78.8	82	79.1	82	0	59-106/23
88-06-2	2,4,6-Trichlorophenol	ND		96.2	81.1	84	80.7	84	0	58-107/24
83-32-9	Acenaphthene	ND		96.2	76.9	80	76.0	79	1	58-106/21
208-96-8	Acenaphthylene	ND		96.2	74.2	77	73.4	76	1	58-105/21
120-12-7	Anthracene	ND		96.2	74.8	78	77.0	80	3	65-108/19
92-87-5	Benzidine	ND		96.2	ND	0*	21.3	22	200*	15-73/23
56-55-3	Benzo(a)anthracene	ND		96.2	80.6	84	82.7	86	3	63-111/19
50-32-8	Benzo(a)pyrene	ND		96.2	78.6	82	80.1	83	2	62-106/20
205-99-2	Benzo(b)fluoranthene	ND		96.2	84.0	87	82.9	86	1	63-109/20
191-24-2	Benzo(g,h,i)perylene	ND		96.2	81.3	85	84.6	88	4	61-111/21
207-08-9	Benzo(k)fluoranthene	ND		96.2	84.0	87	83.1	86	1	64-111/20
101-55-3	4-Bromophenyl phenyl ether	ND		96.2	84.3	88	85.7	89	2	64-107/20
85-68-7	Butyl benzyl phthalate	ND		96.2	92.0	96	91.5	95	1	59-114/20
100-51-6	Benzyl Alcohol	ND		96.2	63.9	66	65.9	69	3	34-98/27
91-58-7	2-Chloronaphthalene	ND		96.2	72.1	75	70.9	74	2	54-105/24
106-47-8	4-Chloroaniline	ND		96.2	63.4	66	68.0	71	7	53-103/22
218-01-9	Chrysene	ND		96.2	82.2	85	82.9	86	1	64-111/19
111-91-1	bis(2-Chloroethoxy)methane	ND		96.2	75.6	79	73.7	77	3	48-101/28
111-44-4	bis(2-Chloroethyl)ether	ND		96.2	72.2	75	70.4	73	3	51-108/27
108-60-1	bis(2-Chloroisopropyl)ether	ND		96.2	83.5	87	82.0	85	2	43-106/27
7005-72-3	4-Chlorophenyl phenyl ether	ND		96.2	80.9	84	80.0	83	1	61-107/20
95-50-1	1,2-Dichlorobenzene	ND		96.2	66.8	69	65.6	68	2	41-102/28
541-73-1	1,3-Dichlorobenzene	ND		96.2	64.3	67	63.3	66	2	38-100/28

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MS	R19235.D	1	07/22/09	RB	07/18/09	OP29648	SR926
OP29648-MSD	R19236.D	1	07/22/09	RB	07/18/09	OP29648	SR926
F66653-6	R19234.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	F66653-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-46-7	1,4-Dichlorobenzene	ND		96.2	63.6	66	63.5	66	0	40-100/28
121-14-2	2,4-Dinitrotoluene	ND		96.2	73.0	76	71.8	75	2	60-109/20
606-20-2	2,6-Dinitrotoluene	ND		96.2	74.2	77	73.8	77	1	58-104/21
91-94-1	3,3'-Dichlorobenzidine	ND		96.2	54.8	57	65.3	68	17	57-105/25
53-70-3	Dibenzo(a,h)anthracene	ND		96.2	83.5	87	83.9	87	0	62-112/20
132-64-9	Dibenzofuran	ND		96.2	75.0	78	74.9	78	0	61-108/20
84-74-2	Di-n-butyl phthalate	ND		96.2	86.5	90	86.8	90	0	62-109/20
117-84-0	Di-n-octyl phthalate	ND		96.2	99.0	103	95.2	99	4	60-120/24
84-66-2	Diethyl phthalate	ND		96.2	84.2	88	81.5	85	3	62-109/19
131-11-3	Dimethyl phthalate	ND		96.2	80.1	83	79.4	83	1	63-106/19
117-81-7	bis(2-Ethylhexyl)phthalate	ND		96.2	95.4	99	94.7	98	1	59-116/21
206-44-0	Fluoranthene	ND		96.2	75.8	79	77.7	81	2	65-114/21
86-73-7	Fluorene	ND		96.2	78.4	82	77.9	81	1	61-106/19
118-74-1	Hexachlorobenzene	ND		96.2	77.6	81	78.6	82	1	62-107/20
87-68-3	Hexachlorobutadiene	ND		96.2	70.6	73	68.2	71	3	38-107/30
77-47-4	Hexachlorocyclopentadiene	ND		96.2	62.4	65	62.0	64	1	19-84/35
67-72-1	Hexachloroethane	ND		96.2	66.5	69	65.8	68	1	35-101/29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		96.2	80.2	83	82.5	86	3	61-113/20
78-59-1	Isophorone	ND		96.2	67.9	71	66.7	69	2	56-111/26
91-57-6	2-Methylnaphthalene	ND		96.2	73.2	76	71.5	74	2	56-112/26
88-74-4	2-Nitroaniline	ND		96.2	78.9	82	79.3	82	1	60-109/20
99-09-2	3-Nitroaniline	ND		96.2	67.8	71	72.9	76	7	52-107/21
100-01-6	4-Nitroaniline	ND		96.2	67.6	70	69.4	72	3	59-111/21
91-20-3	Naphthalene	ND		96.2	69.0	72	67.1	70	3	50-104/28
98-95-3	Nitrobenzene	ND		96.2	71.9	75	70.2	73	2	52-105/28
621-64-7	N-Nitroso-di-n-propylamine	ND		96.2	70.7	74	69.4	72	2	51-104/28
86-30-6	N-Nitrosodiphenylamine	ND		96.2	74.2	77	76.7	80	3	57-110/19
85-01-8	Phenanthrene	ND		96.2	81.2	84	83.2	87	2	65-108/20
129-00-0	Pyrene	ND		96.2	83.5	87	82.9	86	1	60-113/20
120-82-1	1,2,4-Trichlorobenzene	ND		96.2	65.9	69	64.4	67	2	45-104/28

CAS No.	Surrogate Recoveries	MS	MSD	F66653-6	Limits
367-12-4	2-Fluorophenol	49%	51%	28%	14-62%
4165-62-2	Phenol-d5	35%	38%	19%	10-40%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MS	R19235.D	1	07/22/09	RB	07/18/09	OP29648	SR926
OP29648-MSD	R19236.D	1	07/22/09	RB	07/18/09	OP29648	SR926
F66653-6	R19234.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Surrogate Recoveries	MS	MSD	F66653-6	Limits
118-79-6	2,4,6-Tribromophenol	81%	84%	81%	33-118%
4165-60-0	Nitrobenzene-d5	71%	72%	66%	42-108%
321-60-8	2-Fluorobiphenyl	71%	72%	67%	40-106%
1718-51-0	Terphenyl-d14	76%	76%	56%	39-121%

GC 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: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3759-MB	CD089179.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	82%	57-129%
98-08-8	aaa-Trifluorotoluene	85%	58-120%

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3759-BS	CD089178.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.346	87	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	57-129%
98-08-8	aaa-Trifluorotoluene	114%	58-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66619-1MS	CD089186.D	1	07/16/09	SL	n/a	n/a	GCD3759
F66619-1MSD	CD089187.D	1	07/16/09	SL	n/a	n/a	GCD3759
F66619-1	CD089182.D	1	07/16/09	SL	n/a	n/a	GCD3759

The QC reported here applies to the following samples: **Method:** SW846 8015

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	F66619-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		0.4	0.432	108	0.354	89	20*	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F66619-1	Limits
460-00-4	4-Bromofluorobenzene	102%	95%	84%	57-129%
98-08-8	aaa-Trifluorotoluene	111%	100%	86%	58-120%

GC Semi-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: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-MB	XX046481.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	112%	38-127%
2051-24-3	Decachlorobiphenyl	100%	25-137%

Method Blank Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29668-MB	LL26989.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	94%	42-114%

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-BS	XX046480.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	4	4.2	105	76-117
11096-82-5	Aroclor 1260	4	4.3	108	65-117

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	107%	38-127%
2051-24-3	Decachlorobiphenyl	100%	25-137%

Blank Spike Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29668-BS	LL26988.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C22)	1	0.883	88	60-140
	TPH (> C22-C36)	1	0.965	97	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	96%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29621-MS	XX046484.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
OP29621-MSD	XX046485.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641
F66576-1	XX046483.D	1	07/20/09	NJ	07/16/09	OP29621	GXX641

The QC reported here applies to the following samples: **Method:** SW846 8082

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	F66576-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		7.69	7.2	94	7.1	92	1	76-117/16
11096-82-5	Aroclor 1260	ND		7.69	7.7	100	7.7	100	0	65-117/23

CAS No.	Surrogate Recoveries	MS	MSD	F66576-1	Limits
877-09-8	Tetrachloro-m-xylene	99%	97%	94%	38-127%
2051-24-3	Decachlorobiphenyl	100%	100%	94%	25-137%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66653
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29668-MS	LL26993.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
OP29668-MSD	LL26994.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
F66653-3	LL26992.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

CAS No.	Compound	F66653-3 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	0.130	J	1.92	1.78	86	1.77	85	1	60-140/30
	TPH (> C22-C36)	ND		1.92	2.01	105	1.99	103	1	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	F66653-3	Limits
84-15-1	o-Terphenyl	98%	96%	85%	42-114%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	1.0	.14	.15	0.030	<1.0

Associated samples MP16685: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09 07/16/09

Metal	F66651-1 Original	DUP	RPD	QC Limits	F66651-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	3.1	3	103.3	80-120

Associated samples MP16685: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2
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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 07/16/09

Metal	F66651-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.0	3	100.0	3.3	20

Associated samples MP16685: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2
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SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.2	3	106.7	80-120

Associated samples MP16685: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16685
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/16/09

Metal	F66651-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16685: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16703
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/20/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	11	11	-1.5	<200
Antimony	6.0	4.5	4.5	-1.3	<6.0
Arsenic	10	3.6	5.4	-0.19	<10
Barium	200	5	5	-0.010	<200
Beryllium	4.0	1	1	0.18	<4.0
Cadmium	5.0	1	1	-0.16	<5.0
Calcium	1000	100	100	25.7	<1000
Chromium	10	1.6	2	-0.26	<10
Cobalt	50	.83	1	-0.71	<50
Copper	25	2.1	5	-0.45	<25
Iron	300	23	23	-0.58	<300
Lead	10	2	2	1.4	<10
Magnesium	5000	100	100	-2.7	<5000
Manganese	15	.5	1	0.050	<15
Molybdenum	50	2.8	5		
Nickel	40	2.3	2.3	-1.2	<40
Potassium	10000	100	100	223	<10000
Selenium	10	3.1	3.4	2.3	<10
Silver	10	1.2	1.4	-0.16	<10
Sodium	10000	500	500	11.3	<10000
Thallium	10	3.4	3.6	-1.2	<10
Tin	50	2.8	2.8		
Vanadium	50	.66	.9	-0.28	<50
Zinc	20	3.8	7.4	0.99	<20

Associated samples MP16703: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16703
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			07/20/09					07/20/09	
Metal	F66653-1 Original	DUP	RPD	QC Limits	F66653-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	11.4	0.0	200.0(a)	0-20	11.4	29600	27000	109.6	80-120
Antimony	0.0	0.0	NC	0-20	0.0	550	500	110.0	80-120
Arsenic	6.0	8.7	36.7 (a)	0-20	6.0	2150	2000	107.2	80-120
Barium	33.3	33.0	0.9	0-20	33.3	2100	2000	103.3	80-120
Beryllium	0.0	0.0	NC	0-20	0.0	51.5	50	103.0	80-120
Cadmium	0.0	0.0	NC	0-20	0.0	49.9	50	99.8	80-120
Calcium	464000	454000	2.2	0-20	464000	468000	25000	16.0 (b)	80-120
Chromium	0.0	0.0	NC	0-20	0.0	202	200	101.0	80-120
Cobalt	3.1	2.4	25.5 (a)	0-20	3.1	503	500	100.0	80-120
Copper	0.0	0.0	NC	0-20	0.0	274	250	109.6	80-120
Iron	1210	1160	4.2	0-20	1210	26100	26000	95.7	80-120
Lead	0.0	0.0	NC	0-20	0.0	496	500	99.2	80-120
Magnesium	252000	247000	2.0	0-20	252000	267000	25000	60.0 (b)	80-120
Manganese	1150	1140	0.9	0-20	1150	1620	500	94.0	80-120
Molybdenum									
Nickel	17.2	16.9	1.8	0-20	17.2	509	500	98.4	80-120
Potassium	27400	27500	0.4	0-20	27400	64200	25000	147.2N(c	80-120
Selenium	12.0	10.2	16.2	0-20	12.0	2290	2000	113.9	80-120
Silver	0.0	0.0	NC	0-20	0.0	51.6	50	103.2	80-120
Sodium	600000	606000	1.0	0-20	600000	629000	25000	116.0	80-120
Thallium	0.0	0.0	NC	0-20	0.0	1930	2000	96.5	80-120
Tin									
Vanadium	9.3	9.1	2.2	0-20	9.3	514	500	100.9	80-120
Zinc	13.0	11.1	15.8	0-20	13.0	505	500	98.4	80-120

Associated samples MP16703: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(c) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16703
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/20/09

Metal	F66653-1 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum	11.4	28600	27000	105.9	3.4	20
Antimony	0.0	530	500	106.0	3.7	20
Arsenic	6.0	2060	2000	102.7	4.3	20
Barium	33.3	2020	2000	99.3	3.9	20
Beryllium	0.0	49.1	50	98.2	4.8	20
Cadmium	0.0	48.0	50	96.0	3.9	20
Calcium	464000	452000	25000	-48.0(a)	3.5	20
Chromium	0.0	194	200	97.0	4.0	20
Cobalt	3.1	482	500	95.8	4.3	20
Copper	0.0	263	250	105.2	4.1	20
Iron	1210	25100	26000	91.9	3.9	20
Lead	0.0	472	500	94.4	5.0	20
Magnesium	252000	258000	25000	24.0 (a)	3.4	20
Manganese	1150	1560	500	82.0	3.8	20
Molybdenum						
Nickel	17.2	488	500	94.2	4.2	20
Potassium	27400	62600	25000	140.8N(b	2.5	20
Selenium	12.0	2190	2000	108.9	4.5	20
Silver	0.0	49.7	50	99.4	3.8	20
Sodium	600000	582000	25000	-72.0(a)	7.8	20
Thallium	0.0	1850	2000	92.5	4.2	20
Tin						
Vanadium	9.3	493	500	96.7	4.2	20
Zinc	13.0	480	500	93.4	5.1	20

Associated samples MP16703: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16703
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/20/09

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	27100	27000	100.4	80-120
Antimony	523	500	104.6	80-120
Arsenic	1990	2000	99.5	80-120
Barium	2060	2000	103.0	80-120
Beryllium	53.5	50	107.0	80-120
Cadmium	53.1	50	106.2	80-120
Calcium	25700	25000	102.8	80-120
Chromium	212	200	106.0	80-120
Cobalt	529	500	105.8	80-120
Copper	262	250	104.8	80-120
Iron	26400	26000	101.5	80-120
Lead	534	500	106.8	80-120
Magnesium	24900	25000	99.6	80-120
Manganese	533	500	106.6	80-120
Molybdenum				
Nickel	535	500	107.0	80-120
Potassium	25700	25000	102.8	80-120
Selenium	2010	2000	100.5	80-120
Silver	48.5	50	97.0	80-120
Sodium	25000	25000	100.0	80-120
Thallium	2100	2000	105.0	80-120
Tin				
Vanadium	508	500	101.6	80-120
Zinc	528	500	105.6	80-120

Associated samples MP16703: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16703
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/20/09

Metal	F66653-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	11.4	0.00	100.0(a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	6.01	0.00	100.0(a)	0-10
Barium	33.3	33.8	1.4	0-10
Beryllium	0.00	0.00	NC	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	464000	521000	12.5*(b)	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	3.05	0.00	100.0(a)	0-10
Copper	0.00	0.00	NC	0-10
Iron	1210	169	86.1*(b)	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	252000	256000	1.6	0-10
Manganese	1150	1200	4.1	0-10
Molybdenum				
Nickel	17.2	16.7	2.8	0-10
Potassium	27400	22600	17.6*(b)	0-10
Selenium	12.0	0.00	100.0(a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium	600000	512000	14.7*(b)	0-10
Thallium	0.00	0.00	NC	0-10
Tin				
Vanadium	9.26	10.4	12.5 (a)	0-10
Zinc	13.0	0.00	100.0(a)	0-10

Associated samples MP16703: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

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: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN35867	100	0.0	mg/l				

Associated Samples:
Batch GN35867: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F66653
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN35867	F66653-1	mg/l	3690	3660	0.8	0-5%

Associated Samples:
Batch GN35867: F66653-1, F66653-2, F66653-3, F66653-4, F66653-5, F66653-6
(*) Outside of QC limits

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Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/30/09

Technical Report for

Nation View

Holloman AFB; SWMU 122 & 123

8080014.02.020

Accutest Job Number: F66678

Sampling Date: 07/14/09

Report to:

Bhate Environmental Associates, Inc.

zbeck@bhate.com

ATTN: Zack Beck

Total number of pages in report: **88**

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

Client Service contact: Jean Dent-Smith 407-425-6700

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

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Accutest LabLink@92290 15:57 30-Jul-2009

Sample Summary

Nation View

Job No: F66678

Holloman AFB; SWMU 122 & 123
Project No: 8080014.02.020

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F66678-1	07/14/09	13:00	DM	07/16/09	AQ	Ground Water	SWMU 122-MW05
F66678-2	07/14/09	14:45	DM	07/16/09	AQ	Ground Water	SWMU 122-MW09
F66678-3	07/14/09	13:00	DM	07/16/09	AQ	Trip Blank Water	TRIP BLANK-COOLER 1
F66678-4	07/14/09	14:45	DM	07/16/09	AQ	Trip Blank Water	TRIP BLANK-COOLER 2

Sample Results

Report of Analysis

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036637.D	1	07/28/09	MM	n/a	n/a	VN1498
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	0.29	1.0	0.28	ug/l	J
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		87-116%
17060-07-0	1,2-Dichloroethane-D4	92%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	103%		84-120%

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 LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R19237.D	1	07/22/09	RB	07/18/09	OP29648	SR926
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	24	9.6	ug/l	
95-57-8	2-Chlorophenol	ND	4.8	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.8	0.96	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.8	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.8	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	24	9.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.6	3.8	ug/l	
95-48-7	2-Methylphenol	ND	4.8	0.96	ug/l	
	3&4-Methylphenol	ND	4.8	0.96	ug/l	
88-75-5	2-Nitrophenol	ND	4.8	1.2	ug/l	
100-02-7	4-Nitrophenol	ND	24	9.6	ug/l	
87-86-5	Pentachlorophenol	ND	24	9.6	ug/l	
108-95-2	Phenol	ND	4.8	0.96	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.8	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.8	1.3	ug/l	
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
92-87-5	Benzidine	ND	24	9.6	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.8	0.96	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.8	0.96	ug/l	
100-51-6	Benzyl Alcohol	ND	4.8	0.96	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.8	0.96	ug/l	
106-47-8	4-Chloroaniline	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.8	0.96	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.8	0.96	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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.8	0.96	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.8	0.96	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.8	0.96	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.8	0.96	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.8	0.96	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.8	0.96	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.8	0.96	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.6	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
132-64-9	Dibenzofuran	ND	4.8	0.96	ug/l	
84-74-2	Di-n-butyl phthalate	2.1	4.8	0.96	ug/l	J
117-84-0	Di-n-octyl phthalate	ND	4.8	1.4	ug/l	
84-66-2	Diethyl phthalate	5.8	4.8	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.8	0.96	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
118-74-1	Hexachlorobenzene	ND	4.8	0.96	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.8	2.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.8	1.2	ug/l	
67-72-1	Hexachloroethane	ND	4.8	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
78-59-1	Isophorone	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
88-74-4	2-Nitroaniline	ND	9.6	1.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.6	1.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.6	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
98-95-3	Nitrobenzene	ND	4.8	0.96	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.8	0.96	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	31%		14-62%
4165-62-2	Phenol-d5	21%		10-40%
118-79-6	2,4,6-Tribromophenol	85%		33-118%

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 LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		42-108%
321-60-8	2-Fluorobiphenyl	68%		40-106%
1718-51-0	Terphenyl-d14	43%		39-121%

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 LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089263.D	1	07/27/09	SL	n/a	n/a	GCD3763
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	87%		57-129%
98-08-8	aaa-Trifluorotoluene	84%		58-120%

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 LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046677.D	1	07/23/09	NJ	07/21/09	OP29681	GXX644
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	76%		38-127%
2051-24-3	Decachlorobiphenyl	54%		25-137%

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 LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL27000.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	0.125	0.24	0.096	mg/l	J
	TPH (> C22-C36)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	77%		42-114%

ND = Not detected MDL - Method Detection Limit
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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 LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	14.1 J	200	11	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Arsenic	6.6 J	10	5.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Barium	35.9 J	200	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	454000	1000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Chromium	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	1.9 J	50	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	23 U	300	23	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Magnesium	337000	5000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	1040	15	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/20/09	07/20/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	14.5 J	40	2.3	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	38100	10000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium	16.2	10	3.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	937000	200000	10000	ug/l	20	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium	4.2 J	10	3.6	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	15.0 J	50	0.90	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	14.0 J	20	7.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7372
(2) Instrument QC Batch: MA7373
(3) Instrument QC Batch: MA7376
(4) Prep QC Batch: MP16700
(5) Prep QC Batch: MP16704

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW05		
Lab Sample ID:	F66678-1	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	6210	100	10	mg/l	1	07/24/09 14:00	CP	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036640.D	5	07/28/09	MM	n/a	n/a	VN1498
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	85.5	130	50	ug/l	J
107-02-8	Acrolein	ND	100	25	ug/l	
107-13-1	Acrylonitrile	36.0	50	10	ug/l	J
71-43-2	Benzene	3.5	5.0	2.0	ug/l	J
108-86-1	Bromobenzene	ND	5.0	1.3	ug/l	
74-97-5	Bromochloromethane	ND	5.0	1.2	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.0	ug/l	
75-25-2	Bromoform	ND	5.0	1.7	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	1.4	ug/l	
135-98-8	sec-Butylbenzene	3.2	5.0	1.3	ug/l	J
98-06-6	tert-Butylbenzene	ND	5.0	1.6	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.1	ug/l	
75-00-3	Chloroethane	ND	10	2.4	ug/l	
67-66-3	Chloroform	2.0	5.0	1.4	ug/l	J
95-49-8	o-Chlorotoluene	ND	5.0	1.3	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	1.1	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	25	5.0	ug/l	
75-15-0	Carbon disulfide	5.6	10	2.0	ug/l	J
56-23-5	Carbon tetrachloride	ND	5.0	1.1	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	1.2	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	2.7	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.2	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	1.6	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.4	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.7	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.1	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.3	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.4	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.1	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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	5.0	1.2	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	5.0	1.1	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	2.3	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.1	ug/l	
100-41-4	Ethylbenzene	157	5.0	2.2	ug/l	
591-78-6	2-Hexanone	ND	50	25	ug/l	
87-68-3	Hexachlorobutadiene	ND	10	3.5	ug/l	
110-54-3	Hexane	3.0	10	2.5	ug/l	J
98-82-8	Isopropylbenzene	14.8	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	3.8	5.0	1.6	ug/l	J
108-10-1	4-Methyl-2-pentanone	ND	25	10	ug/l	
74-83-9	Methyl bromide	ND	10	3.9	ug/l	
74-87-3	Methyl chloride	ND	10	3.1	ug/l	
74-95-3	Methylene bromide	ND	10	1.5	ug/l	
75-09-2	Methylene chloride	ND	25	5.0	ug/l	
78-93-3	Methyl ethyl ketone	33.0	25	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	1.3	ug/l	
91-20-3	Naphthalene	13.3	25	5.0	ug/l	J
103-65-1	n-Propylbenzene	15.4	5.0	1.3	ug/l	
100-42-5	Styrene	ND	5.0	1.8	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	1.7	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.1	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.3	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	10	1.7	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	2.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	125	10	1.1	ug/l	
108-67-8	1,3,5-Trimethylbenzene	56.8	10	1.0	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.1	ug/l	
108-88-3	Toluene	373	5.0	1.8	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.6	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	2.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/l	
108-05-4	Vinyl Acetate	ND	50	18	ug/l	
	m,p-Xylene	465	10	3.9	ug/l	
95-47-6	o-Xylene	260	5.0	1.9	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:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		87-116%
17060-07-0	1,2-Dichloroethane-D4	92%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	99%		84-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R19238.D	1	07/22/09	RB	07/18/09	OP29648	SR926
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	24	9.6	ug/l	
95-57-8	2-Chlorophenol	ND	4.8	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.8	0.96	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.8	1.2	ug/l	
105-67-9	2,4-Dimethylphenol	6.8	4.8	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	24	9.6	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.6	3.8	ug/l	
95-48-7	2-Methylphenol	ND	4.8	0.96	ug/l	
	3&4-Methylphenol	ND	4.8	0.96	ug/l	
88-75-5	2-Nitrophenol	ND	4.8	1.2	ug/l	
100-02-7	4-Nitrophenol	ND	24	9.6	ug/l	
87-86-5	Pentachlorophenol	ND	24	9.6	ug/l	
108-95-2	Phenol	ND	4.8	0.96	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.8	1.3	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.8	1.3	ug/l	
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
92-87-5	Benzidine	ND	24	9.6	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.8	0.96	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.8	0.96	ug/l	
100-51-6	Benzyl Alcohol	1.0	4.8	0.96	ug/l	J
91-58-7	2-Chloronaphthalene	ND	4.8	0.96	ug/l	
106-47-8	4-Chloroaniline	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.8	0.96	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.8	0.96	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

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Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.8	0.96	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.8	0.96	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.8	0.96	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.8	0.96	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.8	0.96	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.8	0.96	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.8	0.96	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.6	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
132-64-9	Dibenzofuran	ND	4.8	0.96	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.8	0.96	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.8	1.4	ug/l	
84-66-2	Diethyl phthalate	ND	4.8	1.9	ug/l	
131-11-3	Dimethyl phthalate	ND	4.8	0.96	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
118-74-1	Hexachlorobenzene	ND	4.8	0.96	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.8	2.4	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.8	1.2	ug/l	
67-72-1	Hexachloroethane	ND	4.8	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
78-59-1	Isophorone	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	5.6	4.8	0.96	ug/l	
88-74-4	2-Nitroaniline	ND	9.6	1.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.6	1.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.6	1.9	ug/l	
91-20-3	Naphthalene	6.3	4.8	0.96	ug/l	
98-95-3	Nitrobenzene	ND	4.8	0.96	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.8	0.96	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	38%		14-62%
4165-62-2	Phenol-d5	27%		10-40%
118-79-6	2,4,6-Tribromophenol	82%		33-118%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

ABN Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	66%		42-108%
321-60-8	2-Fluorobiphenyl	68%		40-106%
1718-51-0	Terphenyl-d14	63%		39-121%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8015	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD089286.D	10	07/28/09	SL	n/a	n/a	GCD3764
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	4.10	1.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		57-129%
98-08-8	aaa-Trifluorotoluene	100%		58-120%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8082 SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX046712.D	1	07/24/09	NJ	07/21/09	OP29681	GXX645
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.48	0.24	ug/l	
11104-28-2	Aroclor 1221	ND	0.48	0.38	ug/l	
11141-16-5	Aroclor 1232	ND	0.48	0.38	ug/l	
53469-21-9	Aroclor 1242	ND	0.48	0.24	ug/l	
12672-29-6	Aroclor 1248	ND	0.48	0.24	ug/l	
11097-69-1	Aroclor 1254	ND	0.48	0.24	ug/l	
11096-82-5	Aroclor 1260	ND	0.48	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	51%		38-127%
2051-24-3	Decachlorobiphenyl	29%		25-137%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
Method:	SW846 8015 M SW846 3510C	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL27001.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	0.466	0.24	0.096	mg/l	
	TPH (> C22-C36)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		42-114%

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	13.5 J	200	11	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Antimony	4.5 U	6.0	4.5	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Arsenic	19.8	10	5.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Barium	19.0 J	200	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Beryllium	1.0 U	4.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cadmium	1.0 U	5.0	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Calcium	443000	1000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Chromium	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Cobalt	1.3 J	50	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Copper	5.0 U	25	5.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Iron	245 J	300	23	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Lead [a]	2.0 U	10	2.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Magnesium	399000	5000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Manganese	1100	15	1.0	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Mercury	0.15 U	1.0	0.15	ug/l	1	07/20/09	07/20/09	LM	SW846 7470A [1]	SW846 7470A [4]
Nickel	7.0 J	40	2.3	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Potassium	22100	10000	100	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Selenium	19.7	10	3.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Silver	1.4 U	10	1.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Sodium	1510000	200000	10000	ug/l	20	07/20/09	07/21/09	RS	SW846 6010B [3]	SW846 3010A [5]
Thallium	4.0 J	10	3.6	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Vanadium	43.8 J	50	0.90	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]
Zinc	7.4 U	20	7.4	ug/l	1	07/20/09	07/20/09	RS	SW846 6010B [2]	SW846 3010A [5]

(1) Instrument QC Batch: MA7372
(2) Instrument QC Batch: MA7373
(3) Instrument QC Batch: MA7376
(4) Prep QC Batch: MP16700
(5) Prep QC Batch: MP16704

(a) Elevated RL due to CRIA exceeding acceptance criteria.

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	SWMU 122-MW09		
Lab Sample ID:	F66678-2	**Date Sampled:**	07/14/09
Matrix:	AQ - Ground Water	**Date Received:**	07/16/09
		Percent Solids:	n/a
Project:	Holloman AFB; SWMU 122 & 123		

General Chemistry

Analyte	Result	RL	MDL	Units	DF	Analyzed	By	Method
Solids, Total Dissolved	8130	100	10	mg/l	1	07/24/09 14:00	CP	SM19 2540C

RL = Reporting Limit
MDL = Method Detection Limit

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

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Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 1		
Lab Sample ID:	F66678-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036638.D	1	07/28/09	MM	n/a	n/a	VN1498
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 1		
Lab Sample ID:	F66678-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 1		
Lab Sample ID:	F66678-3	**Date Sampled:**	07/14/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		87-116%
17060-07-0	1,2-Dichloroethane-D4	91%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	104%		84-120%

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 LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 2		
Lab Sample ID:	F66678-4	**Date Sampled:**	07/14/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0036639.D	1	07/28/09	MM	n/a	n/a	VN1498
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 2		
Lab Sample ID:	F66678-4	**Date Sampled:**	07/14/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	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	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	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

Accutest LabLink@92290 15:57 30-Jul-2009

Report of Analysis

Client Sample ID:	TRIP BLANK-COOLER 2		
Lab Sample ID:	F66678-4	**Date Sampled:**	07/14/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	07/16/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Holloman AFB; SWMU 122 & 123		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		87-116%
17060-07-0	1,2-Dichloroethane-D4	93%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

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:

- Certification Exceptions
- Chain of Custody

NATIONVIEW

PO #: 09-0112

Page: 1 of 1

NationView Project No: 8080014.02.020

COC Number[1]: 7-15-09

LIMS Number: F66678

Chain of Custody and Analytical Request

Facility/Base I.D.: Holloman AFB

Project/Site Name: SWMU 122/123

Client Name: USACE

Collected by: Dustin McNeil, Zack Beck

	Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code [2]	Sample Number [3]	Sample Matrix [4]	Number of containers	VOCs (8260B)	SVOCs (8270C)	TPH-GRO, DRO, ORO (8015B)	TAL Metals (6010B/7471A)	PCBs (8082)	TDS (2540C)	Moisture Content (2540B)	Dry Bulk Density (D2937)	FOC (D2974)	Specific Gravity (D1429-86)	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
1	SWMU 122-MW05		14-July-2009	1300	-	N		WG	14	X	X	X	X	X	X								1
2	SWMU 122-MW09		14-July-2009	1445	-	N		WG	14	X	X	X	X	X	X								2
3	Trip Blank-Cooler 1		14-July-2009	1300	-	TB		WQ	2	X													1
4	Trip Blank-Cooler 2		14-July-2009	1445		TB		WQ	2	X													2

COMMENTS: *SWMU 122-MW05 has half volumes due to poor recharge rate on well. SVOCs, PCBs, GRO/ORO (1 liter per analysis)

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received By (signed)	Date	Time
1.	[signature]	7/15/09	1500	[signature]	7.16.09	09:10
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: Shipped No.:

Method of Shipment: Airbill Number:

Analytical Lab: Delivery Location:

Lab Recipient: Delivery Date/Time:

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

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

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: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = 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 10109901 in the Equipment Blank Lot Control

2.8 2.0

F66678: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F66678 CLIENT: Nationview PROJECT: SMWU-122/123

DATE/TIME RECEIVED: 7.16.09 09:00 # OF COOLERS RECEIVED: 2 COOLER TEMPS: 2.8 2.0

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

AIRBILL NUMBERS: 8692 9945 7646

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
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [X] TRIP BLANK PROVIDED
- [ ] 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 NOT PRESENT ON ALL BOTTLES
- [X] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] 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 NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OF LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS: Samp 1 received 2 unpreserved ; 1 preserved Amber

TECHNICIAN SIGNATURE/DATE E.T. 7.16.09 TECHNICIAN SIGNATURE/DATE OR 7/16/09

ASBD 12/17/07

F66678: 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: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1498-MB	N0036628.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-02-8	Acrolein	ND	20	5.0	ug/l	
107-13-1	Acrylonitrile	ND	10	2.0	ug/l	
71-43-2	Benzene	ND	1.0	0.40	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.26	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.23	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.33	ug/l	
104-51-8	n-Butylbenzene	ND	1.0	0.28	ug/l	
135-98-8	sec-Butylbenzene	ND	1.0	0.25	ug/l	
98-06-6	tert-Butylbenzene	ND	1.0	0.32	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.22	ug/l	
75-00-3	Chloroethane	ND	2.0	0.48	ug/l	
67-66-3	Chloroform	ND	1.0	0.28	ug/l	
95-49-8	o-Chlorotoluene	ND	1.0	0.25	ug/l	
106-43-4	p-Chlorotoluene	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	1.0	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.40	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.22	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.24	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.54	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.32	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.28	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.34	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.21	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.26	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.28	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.23	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.20	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.22	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.45	ug/l	

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1498-MB	N0036628.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Compound	Result	RL	MDL	Units	Q
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.21	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.43	ug/l	
591-78-6	2-Hexanone	ND	10	5.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	2.0	0.69	ug/l	
110-54-3	Hexane	ND	2.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	1.0	0.32	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.78	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.61	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.30	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.26	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
103-65-1	n-Propylbenzene	ND	1.0	0.25	ug/l	
100-42-5	Styrene	ND	1.0	0.36	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.33	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.21	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.26	ug/l	
87-61-6	1,2,3-Trichlorobenzene	0.56	1.0	0.50	ug/l	J
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.34	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	1.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	2.0	0.22	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	2.0	0.20	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.22	ug/l	
108-88-3	Toluene	ND	1.0	0.35	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.32	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
108-05-4	Vinyl Acetate	ND	10	3.6	ug/l	
	m,p-Xylene	ND	2.0	0.78	ug/l	
95-47-6	o-Xylene	ND	1.0	0.37	ug/l	

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1498-MB	N0036628.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	95%	76-127%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	103%	84-120%

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1498-BS	N0036629.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	86.6	69	59-134
107-02-8	Acrolein	125	47.9	38	33-157
107-13-1	Acrylonitrile	125	124	99	62-124
71-43-2	Benzene	25	26.5	106	83-124
108-86-1	Bromobenzene	25	25.3	101	83-115
74-97-5	Bromochloromethane	25	25.2	101	78-112
75-27-4	Bromodichloromethane	25	23.3	93	76-116
75-25-2	Bromoform	25	21.4	86	68-128
104-51-8	n-Butylbenzene	25	28.2	113	84-124
135-98-8	sec-Butylbenzene	25	29.5	118	86-127
98-06-6	tert-Butylbenzene	25	27.4	110	83-126
108-90-7	Chlorobenzene	25	26.8	107	87-115
75-00-3	Chloroethane	25	30.8	123	54-166
67-66-3	Chloroform	25	27.9	112	85-123
95-49-8	o-Chlorotoluene	25	27.3	109	84-121
106-43-4	p-Chlorotoluene	25	26.5	106	84-120
110-75-8	2-Chloroethyl vinyl ether	125	125	100	63-125
75-15-0	Carbon disulfide	25	34.3	137	67-147
56-23-5	Carbon tetrachloride	25	26.6	106	74-139
75-34-3	1,1-Dichloroethane	25	26.5	106	82-127
75-35-4	1,1-Dichloroethylene	25	34.8	139*	75-133
563-58-6	1,1-Dichloropropene	25	27.0	108	87-127
96-12-8	1,2-Dibromo-3-chloropropane	25	21.1	84	61-118
106-93-4	1,2-Dibromoethane	25	23.6	94	80-115
107-06-2	1,2-Dichloroethane	25	24.1	96	76-122
78-87-5	1,2-Dichloropropane	25	25.5	102	81-120
142-28-9	1,3-Dichloropropane	25	24.2	97	81-113
594-20-7	2,2-Dichloropropane	25	27.7	111	77-138
124-48-1	Dibromochloromethane	25	23.5	94	74-116
75-71-8	Dichlorodifluoromethane	25	19.9	80	34-158
156-59-2	cis-1,2-Dichloroethylene	25	24.6	98	81-114
10061-01-5	cis-1,3-Dichloropropene	25	24.4	98	83-119
541-73-1	m-Dichlorobenzene	25	25.8	103	86-115
95-50-1	o-Dichlorobenzene	25	25.4	102	85-115
106-46-7	p-Dichlorobenzene	25	25.5	102	87-113
156-60-5	trans-1,2-Dichloroethylene	25	32.2	129*	82-126

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1498-BS	N0036629.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
10061-02-6	trans-1,3-Dichloropropene	25	25.1	100	87-123
100-41-4	Ethylbenzene	25	23.4	94	87-118
591-78-6	2-Hexanone	125	116	93	58-125
87-68-3	Hexachlorobutadiene	25	25.9	104	71-133
110-54-3	Hexane	25	38.8	155*	71-134
98-82-8	Isopropylbenzene	25	25.0	100	87-131
99-87-6	p-Isopropyltoluene	25	28.4	114	83-125
108-10-1	4-Methyl-2-pentanone	125	127	102	62-125
74-83-9	Methyl bromide	25	31.0	124	55-151
74-87-3	Methyl chloride	25	27.6	110	55-173
74-95-3	Methylene bromide	25	25.8	103	81-116
75-09-2	Methylene chloride	25	27.9	112	69-125
78-93-3	Methyl ethyl ketone	125	99.0	79	61-127
1634-04-4	Methyl Tert Butyl Ether	25	26.6	106	75-116
91-20-3	Naphthalene	25	22.1	88	59-125
103-65-1	n-Propylbenzene	25	29.0	116	86-125
100-42-5	Styrene	25	23.3	93	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	23.7	95	81-119
71-55-6	1,1,1-Trichloroethane	25	26.7	107	79-133
79-34-5	1,1,2,2-Tetrachloroethane	25	23.6	94	71-120
79-00-5	1,1,2-Trichloroethane	25	24.0	96	80-114
87-61-6	1,2,3-Trichlorobenzene	25	23.2	93	64-126
96-18-4	1,2,3-Trichloropropane	25	21.2	85	77-115
120-82-1	1,2,4-Trichlorobenzene	25	23.5	94	68-123
95-63-6	1,2,4-Trimethylbenzene	25	26.8	107	82-120
108-67-8	1,3,5-Trimethylbenzene	25	27.8	111	83-123
127-18-4	Tetrachloroethylene	25	24.6	98	80-131
108-88-3	Toluene	25	25.1	100	86-116
79-01-6	Trichloroethylene	25	24.8	99	85-124
75-69-4	Trichlorofluoromethane	25	29.6	118	66-156
75-01-4	Vinyl chloride	25	25.7	103	57-153
108-05-4	Vinyl Acetate	125	141	113	38-159
	m,p-Xylene	50	48.0	96	86-121
95-47-6	o-Xylene	25	23.8	95	83-121

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1498-BS	N0036629.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	99%	76-127%
2037-26-5	Toluene-D8	97%	86-112%
460-00-4	4-Bromofluorobenzene	98%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66766-1MS	N0036642.D	1	07/28/09	MM	n/a	n/a	VN1498
F66766-1MSD	N0036643.D	1	07/28/09	MM	n/a	n/a	VN1498
F66766-1	N0036634.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Compound	F66766-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	82.6	66	82.6	66	0	59-134/14
107-02-8	Acrolein	ND		125	51.1	41	49.2	39	4	33-157/21
107-13-1	Acrylonitrile	ND		125	127	102	128	102	1	62-124/13
71-43-2	Benzene	ND		25	26.6	106	26.2	105	2	83-124/11
108-86-1	Bromobenzene	ND		25	24.9	100	25.1	100	1	83-115/10
74-97-5	Bromochloromethane	ND		25	24.7	99	25.0	100	1	78-112/10
75-27-4	Bromodichloromethane	ND		25	22.8	91	22.7	91	0	76-116/10
75-25-2	Bromoform	ND		25	21.9	88	22.4	90	2	68-128/11
104-51-8	n-Butylbenzene	ND		25	27.1	108	27.2	109	0	84-124/10
135-98-8	sec-Butylbenzene	ND		25	28.5	114	28.9	116	1	86-127/10
98-06-6	tert-Butylbenzene	ND		25	26.6	106	26.8	107	1	83-126/10
108-90-7	Chlorobenzene	ND		25	26.9	108	27.0	108	0	87-115/9
75-00-3	Chloroethane	ND		25	31.9	128	32.7	131	2	54-166/20
67-66-3	Chloroform	ND		25	27.4	110	27.8	111	1	85-123/10
95-49-8	o-Chlorotoluene	ND		25	26.7	107	26.9	108	1	84-121/10
106-43-4	p-Chlorotoluene	ND		25	25.7	103	25.9	104	1	84-120/10
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	63-125/24
75-15-0	Carbon disulfide	ND		25	34.6	138	35.1	140	1	67-147/12
56-23-5	Carbon tetrachloride	ND		25	25.9	104	25.8	103	0	74-139/13
75-34-3	1,1-Dichloroethane	ND		25	26.3	105	26.2	105	0	82-127/10
75-35-4	1,1-Dichloroethylene	ND		25	35.5	142*	35.6	142*	0	75-133/13
563-58-6	1,1-Dichloropropene	ND		25	26.4	106	26.9	108	2	87-127/10
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	19.9	80	21.0	84	5	61-118/15
106-93-4	1,2-Dibromoethane	ND		25	23.5	94	23.6	94	0	80-115/10
107-06-2	1,2-Dichloroethane	ND		25	23.6	94	23.4	94	1	76-122/11
78-87-5	1,2-Dichloropropane	ND		25	25.2	101	25.0	100	1	81-120/11
142-28-9	1,3-Dichloropropane	ND		25	23.8	95	24.2	97	2	81-113/11
594-20-7	2,2-Dichloropropane	ND		25	26.1	104	26.1	104	0	77-138/12
124-48-1	Dibromochloromethane	ND		25	22.9	92	23.7	95	3	74-116/11
75-71-8	Dichlorodifluoromethane	ND		25	18.4	74	19.3	77	5	34-158/22
156-59-2	cis-1,2-Dichloroethylene	ND		25	24.5	98	24.8	99	1	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	23.1	92	23.2	93	0	83-119/10
541-73-1	m-Dichlorobenzene	ND		25	25.3	101	25.5	102	1	86-115/9
95-50-1	o-Dichlorobenzene	ND		25	24.9	100	25.5	102	2	85-115/9
106-46-7	p-Dichlorobenzene	ND		25	25.1	100	25.2	101	0	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		25	32.9	132*	32.8	131*	0	82-126/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66766-1MS	N0036642.D	1	07/28/09	MM	n/a	n/a	VN1498
F66766-1MSD	N0036643.D	1	07/28/09	MM	n/a	n/a	VN1498
F66766-1	N0036634.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Compound	F66766-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
10061-02-6	trans-1,3-Dichloropropene	ND		25	24.4	98	24.6	98	1	87-123/10
100-41-4	Ethylbenzene	ND		25	23.5	94	23.7	95	1	87-118/10
591-78-6	2-Hexanone	ND		125	114	91	118	94	3	58-125/14
87-68-3	Hexachlorobutadiene	ND		25	23.8	95	25.3	101	6	71-133/12
110-54-3	Hexane	ND		25	35.9	144*	37.3	149*	4	71-134/11
98-82-8	Isopropylbenzene	ND		25	25.1	100	25.2	101	0	87-131/10
99-87-6	p-Isopropyltoluene	ND		25	28.0	112	28.0	112	0	83-125/9
108-10-1	4-Methyl-2-pentanone	ND		125	127	102	131	105	3	62-125/13
74-83-9	Methyl bromide	ND		25	33.4	134	32.7	131	2	55-151/21
74-87-3	Methyl chloride	ND		25	27.1	108	28.5	114	5	55-173/22
74-95-3	Methylene bromide	ND		25	25.5	102	25.6	102	0	81-116/10
75-09-2	Methylene chloride	ND		25	27.9	112	27.7	111	1	69-125/11
78-93-3	Methyl ethyl ketone	ND		125	97.5	78	98.4	79	1	61-127/13
1634-04-4	Methyl Tert Butyl Ether	1.1		25	26.7	102	27.9	107	4	75-116/10
91-20-3	Naphthalene	ND		25	21.8	87	22.9	92	5	59-125/15
103-65-1	n-Propylbenzene	ND		25	28.3	113	28.6	114	1	86-125/10
100-42-5	Styrene	ND		25	22.8	91	23.2	93	2	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	23.9	96	24.1	96	1	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		25	26.0	104	26.0	104	0	79-133/11
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	23.7	95	24.0	96	1	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		25	24.2	97	24.2	97	0	80-114/11
87-61-6	1,2,3-Trichlorobenzene	ND		25	22.3	89	23.1	92	4	64-126/16
96-18-4	1,2,3-Trichloropropane	ND		25	21.1	84	21.6	86	2	77-115/12
120-82-1	1,2,4-Trichlorobenzene	ND		25	22.4	90	22.8	91	2	68-123/11
95-63-6	1,2,4-Trimethylbenzene	ND		25	26.4	106	27.0	108	2	82-120/10
108-67-8	1,3,5-Trimethylbenzene	ND		25	27.2	109	27.7	111	2	83-123/10
127-18-4	Tetrachloroethylene	ND		25	24.4	98	24.7	99	1	80-131/12
108-88-3	Toluene	ND		25	25.1	100	25.4	102	1	86-116/10
79-01-6	Trichloroethylene	ND		25	25.1	100	24.9	100	1	85-124/10
75-69-4	Trichlorofluoromethane	ND		25	30.3	121	31.5	126	4	66-156/15
75-01-4	Vinyl chloride	ND		25	24.2	97	25.9	104	7	57-153/22
108-05-4	Vinyl Acetate	ND		125	134	107	134	107	0	38-159/11
	m,p-Xylene	ND		50	47.1	94	47.4	95	1	86-121/10
95-47-6	o-Xylene	ND		25	23.8	95	23.9	96	0	83-121/10

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66766-1MS	N0036642.D	1	07/28/09	MM	n/a	n/a	VN1498
F66766-1MSD	N0036643.D	1	07/28/09	MM	n/a	n/a	VN1498
F66766-1	N0036634.D	1	07/28/09	MM	n/a	n/a	VN1498

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

F66678-1, F66678-2, F66678-3, F66678-4

CAS No.	Surrogate Recoveries	MS	MSD	F66766-1	Limits
1868-53-7	Dibromofluoromethane	99%	99%	98%	87-116%
17060-07-0	1,2-Dichloroethane-D4	96%	97%	93%	76-127%
2037-26-5	Toluene-D8	96%	97%	98%	86-112%
460-00-4	4-Bromofluorobenzene	95%	97%	104%	84-120%

GC/MS Semi-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: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	R19228.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	R19228.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	41%	14-62%
4165-62-2	Phenol-d5	28%	10-40%

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	R19228.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	83%	33-118%
4165-60-0	Nitrobenzene-d5	76%	42-108%
321-60-8	2-Fluorobiphenyl	75%	40-106%
1718-51-0	Terphenyl-d14	78%	39-121%

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	L044601.D	1	07/23/09	RB	07/18/09	OP29648	SL2269

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	10	ug/l	
95-57-8	2-Chlorophenol	ND	5.0	1.2	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	5.0	1.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	5.0	1.3	ug/l	
105-67-9	2,4-Dimethylphenol	ND	5.0	1.2	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	10	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	10	4.0	ug/l	
95-48-7	2-Methylphenol	ND	5.0	1.0	ug/l	
	3&4-Methylphenol	ND	5.0	1.0	ug/l	
88-75-5	2-Nitrophenol	ND	5.0	1.3	ug/l	
100-02-7	4-Nitrophenol	ND	25	10	ug/l	
87-86-5	Pentachlorophenol	ND	25	10	ug/l	
108-95-2	Phenol	ND	5.0	1.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	5.0	1.4	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	5.0	1.4	ug/l	
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
92-87-5	Benzidine	ND	25	10	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	5.0	1.0	ug/l	
85-68-7	Butyl benzyl phthalate	ND	5.0	1.0	ug/l	
100-51-6	Benzyl Alcohol	ND	5.0	1.0	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	1.0	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	5.0	1.0	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	5.0	1.0	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	5.0	1.0	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	5.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	1.0	ug/l	

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	L044601.D	1	07/23/09	RB	07/18/09	OP29648	SL2269

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	1,4-Dichlorobenzene	ND	5.0	1.0	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	5.0	1.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	5.0	1.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	10	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
132-64-9	Dibenzofuran	ND	5.0	1.0	ug/l	
84-74-2	Di-n-butyl phthalate	ND	5.0	1.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	5.0	1.5	ug/l	
84-66-2	Diethyl phthalate	ND	5.0	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	5.0	1.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
118-74-1	Hexachlorobenzene	ND	5.0	1.0	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	2.5	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	5.0	1.3	ug/l	
67-72-1	Hexachloroethane	ND	5.0	2.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
78-59-1	Isophorone	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
88-74-4	2-Nitroaniline	ND	10	2.0	ug/l	
99-09-2	3-Nitroaniline	ND	10	2.0	ug/l	
100-01-6	4-Nitroaniline	ND	10	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
98-95-3	Nitrobenzene	ND	5.0	1.0	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	5.0	1.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	38%	14-62%
4165-62-2	Phenol-d5	26%	10-40%

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MB	L044601.D	1	07/23/09	RB	07/18/09	OP29648	SL2269

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Surrogate Recoveries		Limits
118-79-6	2,4,6-Tribromophenol	90%	33-118%
4165-60-0	Nitrobenzene-d5	69%	42-108%
321-60-8	2-Fluorobiphenyl	78%	40-106%
1718-51-0	Terphenyl-d14	73%	39-121%

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-BS	R19227.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
65-85-0	Benzoic Acid	100	14.8	15	10-50
95-57-8	2-Chlorophenol	50	40.9	82	44-103
59-50-7	4-Chloro-3-methyl phenol	50	43.8	88	53-105
120-83-2	2,4-Dichlorophenol	50	46.3	93	53-108
105-67-9	2,4-Dimethylphenol	50	38.5	77	37-91
51-28-5	2,4-Dinitrophenol	100	81.2	81	37-111
534-52-1	4,6-Dinitro-o-cresol	100	100	100	62-115
95-48-7	2-Methylphenol	50	34.4	69	35-91
	3&4-Methylphenol	100	63.9	64	32-85
88-75-5	2-Nitrophenol	50	45.3	91	49-111
100-02-7	4-Nitrophenol	100	39.9	40	13-55
87-86-5	Pentachlorophenol	100	95.5	96	57-118
108-95-2	Phenol	50	20.5	41	13-54
95-95-4	2,4,5-Trichlorophenol	50	44.2	88	59-106
88-06-2	2,4,6-Trichlorophenol	50	46.2	92	58-107
83-32-9	Acenaphthene	50	44.0	88	58-106
208-96-8	Acenaphthylene	50	42.4	85	58-105
120-12-7	Anthracene	50	42.4	85	65-108
92-87-5	Benzidine	50	33.0	66	15-73
56-55-3	Benzo(a)anthracene	50	45.8	92	63-111
50-32-8	Benzo(a)pyrene	50	45.5	91	62-106
205-99-2	Benzo(b)fluoranthene	50	46.2	92	63-109
191-24-2	Benzo(g,h,i)perylene	50	47.2	94	61-111
207-08-9	Benzo(k)fluoranthene	50	47.7	95	64-111
101-55-3	4-Bromophenyl phenyl ether	50	48.1	96	64-107
85-68-7	Butyl benzyl phthalate	50	51.5	103	59-114
100-51-6	Benzyl Alcohol	50	35.8	72	34-98
91-58-7	2-Chloronaphthalene	50	41.8	84	54-105
106-47-8	4-Chloroaniline	50	40.2	80	53-103
218-01-9	Chrysene	50	46.3	93	64-111
111-91-1	bis(2-Chloroethoxy)methane	50	45.5	91	48-101
111-44-4	bis(2-Chloroethyl)ether	50	43.3	87	51-108
108-60-1	bis(2-Chloroisopropyl)ether	50	48.8	98	43-106
7005-72-3	4-Chlorophenyl phenyl ether	50	45.7	91	61-107
95-50-1	1,2-Dichlorobenzene	50	39.8	80	41-102
541-73-1	1,3-Dichlorobenzene	50	38.2	76	38-100

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-BS	R19227.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-46-7	1,4-Dichlorobenzene	50	38.5	77	40-100
121-14-2	2,4-Dinitrotoluene	50	40.8	82	60-109
606-20-2	2,6-Dinitrotoluene	50	41.4	83	58-104
91-94-1	3,3'-Dichlorobenzidine	50	42.1	84	57-105
53-70-3	Dibenzo(a,h)anthracene	50	47.2	94	62-112
132-64-9	Dibenzofuran	50	42.4	85	61-108
84-74-2	Di-n-butyl phthalate	50	48.0	96	62-109
117-84-0	Di-n-octyl phthalate	50	54.9	110	60-120
84-66-2	Diethyl phthalate	50	46.3	93	62-109
131-11-3	Dimethyl phthalate	50	44.7	89	63-106
117-81-7	bis(2-Ethylhexyl)phthalate	50	54.1	108	59-116
206-44-0	Fluoranthene	50	43.1	86	65-114
86-73-7	Fluorene	50	44.0	88	61-106
118-74-1	Hexachlorobenzene	50	44.3	89	62-107
87-68-3	Hexachlorobutadiene	50	41.5	83	38-107
77-47-4	Hexachlorocyclopentadiene	50	35.5	71	19-84
67-72-1	Hexachloroethane	50	40.2	80	35-101
193-39-5	Indeno(1,2,3-cd)pyrene	50	45.7	91	61-113
78-59-1	Isophorone	50	40.0	80	56-111
91-57-6	2-Methylnaphthalene	50	42.8	86	56-112
88-74-4	2-Nitroaniline	50	44.5	89	60-109
99-09-2	3-Nitroaniline	50	41.3	83	52-107
100-01-6	4-Nitroaniline	50	41.3	83	59-111
91-20-3	Naphthalene	50	40.9	82	50-104
98-95-3	Nitrobenzene	50	42.1	84	52-105
621-64-7	N-Nitroso-di-n-propylamine	50	41.7	83	51-104
86-30-6	N-Nitrosodiphenylamine	50	42.6	85	57-110
85-01-8	Phenanthrene	50	45.9	92	65-108
129-00-0	Pyrene	50	46.2	92	60-113
120-82-1	1,2,4-Trichlorobenzene	50	39.1	78	45-104

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	52%	14-62%
4165-62-2	Phenol-d5	35%	10-40%

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-BS	R19227.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Surrogate Recoveries	BSP	Limits
118-79-6	2,4,6-Tribromophenol	87%	33-118%
4165-60-0	Nitrobenzene-d5	84%	42-108%
321-60-8	2-Fluorobiphenyl	82%	40-106%
1718-51-0	Terphenyl-d14	83%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MS	R19235.D	1	07/22/09	RB	07/18/09	OP29648	SR926
OP29648-MSD	R19236.D	1	07/22/09	RB	07/18/09	OP29648	SR926
F66653-6	R19234.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Compound	F66653-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		192	87.4	45	89.5	47	2	10-50/40
95-57-8	2-Chlorophenol	ND		96.2	67.6	70	67.3	70	0	44-103/29
59-50-7	4-Chloro-3-methyl phenol	ND		96.2	78.3	81	78.7	82	1	53-105/24
120-83-2	2,4-Dichlorophenol	ND		96.2	75.9	79	75.4	78	1	53-108/26
105-67-9	2,4-Dimethylphenol	ND		96.2	60.1	63	61.4	64	2	37-91/28
51-28-5	2,4-Dinitrophenol	ND		192	158	82	158	82	0	37-111/30
534-52-1	4,6-Dinitro-o-cresol	ND		192	176	92	178	93	1	62-115/26
95-48-7	2-Methylphenol	ND		96.2	60.1	63	60.5	63	1	35-91/30
	3&4-Methylphenol	ND		192	115	60	117	61	2	32-85/29
88-75-5	2-Nitrophenol	ND		96.2	74.9	78	73.5	76	2	49-111/30
100-02-7	4-Nitrophenol	ND		192	92.2	48	98.1	51	6	13-55/31
87-86-5	Pentachlorophenol	ND		192	185	96	188	98	2	57-118/26
108-95-2	Phenol	ND		96.2	39.6	41	41.8	43	5	13-54/34
95-95-4	2,4,5-Trichlorophenol	ND		96.2	78.8	82	79.1	82	0	59-106/23
88-06-2	2,4,6-Trichlorophenol	ND		96.2	81.1	84	80.7	84	0	58-107/24
83-32-9	Acenaphthene	ND		96.2	76.9	80	76.0	79	1	58-106/21
208-96-8	Acenaphthylene	ND		96.2	74.2	77	73.4	76	1	58-105/21
120-12-7	Anthracene	ND		96.2	74.8	78	77.0	80	3	65-108/19
92-87-5	Benzidine	ND		96.2	ND	0*	21.3	22	200*	15-73/23
56-55-3	Benzo(a)anthracene	ND		96.2	80.6	84	82.7	86	3	63-111/19
50-32-8	Benzo(a)pyrene	ND		96.2	78.6	82	80.1	83	2	62-106/20
205-99-2	Benzo(b)fluoranthene	ND		96.2	84.0	87	82.9	86	1	63-109/20
191-24-2	Benzo(g,h,i)perylene	ND		96.2	81.3	85	84.6	88	4	61-111/21
207-08-9	Benzo(k)fluoranthene	ND		96.2	84.0	87	83.1	86	1	64-111/20
101-55-3	4-Bromophenyl phenyl ether	ND		96.2	84.3	88	85.7	89	2	64-107/20
85-68-7	Butyl benzyl phthalate	ND		96.2	92.0	96	91.5	95	1	59-114/20
100-51-6	Benzyl Alcohol	ND		96.2	63.9	66	65.9	69	3	34-98/27
91-58-7	2-Chloronaphthalene	ND		96.2	72.1	75	70.9	74	2	54-105/24
106-47-8	4-Chloroaniline	ND		96.2	63.4	66	68.0	71	7	53-103/22
218-01-9	Chrysene	ND		96.2	82.2	85	82.9	86	1	64-111/19
111-91-1	bis(2-Chloroethoxy)methane	ND		96.2	75.6	79	73.7	77	3	48-101/28
111-44-4	bis(2-Chloroethyl)ether	ND		96.2	72.2	75	70.4	73	3	51-108/27
108-60-1	bis(2-Chloroisopropyl)ether	ND		96.2	83.5	87	82.0	85	2	43-106/27
7005-72-3	4-Chlorophenyl phenyl ether	ND		96.2	80.9	84	80.0	83	1	61-107/20
95-50-1	1,2-Dichlorobenzene	ND		96.2	66.8	69	65.6	68	2	41-102/28
541-73-1	1,3-Dichlorobenzene	ND		96.2	64.3	67	63.3	66	2	38-100/28

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MS	R19235.D	1	07/22/09	RB	07/18/09	OP29648	SR926
OP29648-MSD	R19236.D	1	07/22/09	RB	07/18/09	OP29648	SR926
F66653-6	R19234.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Compound	F66653-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-46-7	1,4-Dichlorobenzene	ND		96.2	63.6	66	63.5	66	0	40-100/28
121-14-2	2,4-Dinitrotoluene	ND		96.2	73.0	76	71.8	75	2	60-109/20
606-20-2	2,6-Dinitrotoluene	ND		96.2	74.2	77	73.8	77	1	58-104/21
91-94-1	3,3'-Dichlorobenzidine	ND		96.2	54.8	57	65.3	68	17	57-105/25
53-70-3	Dibenzo(a,h)anthracene	ND		96.2	83.5	87	83.9	87	0	62-112/20
132-64-9	Dibenzofuran	ND		96.2	75.0	78	74.9	78	0	61-108/20
84-74-2	Di-n-butyl phthalate	ND		96.2	86.5	90	86.8	90	0	62-109/20
117-84-0	Di-n-octyl phthalate	ND		96.2	99.0	103	95.2	99	4	60-120/24
84-66-2	Diethyl phthalate	ND		96.2	84.2	88	81.5	85	3	62-109/19
131-11-3	Dimethyl phthalate	ND		96.2	80.1	83	79.4	83	1	63-106/19
117-81-7	bis(2-Ethylhexyl)phthalate	ND		96.2	95.4	99	94.7	98	1	59-116/21
206-44-0	Fluoranthene	ND		96.2	75.8	79	77.7	81	2	65-114/21
86-73-7	Fluorene	ND		96.2	78.4	82	77.9	81	1	61-106/19
118-74-1	Hexachlorobenzene	ND		96.2	77.6	81	78.6	82	1	62-107/20
87-68-3	Hexachlorobutadiene	ND		96.2	70.6	73	68.2	71	3	38-107/30
77-47-4	Hexachlorocyclopentadiene	ND		96.2	62.4	65	62.0	64	1	19-84/35
67-72-1	Hexachloroethane	ND		96.2	66.5	69	65.8	68	1	35-101/29
193-39-5	Indeno(1,2,3-cd)pyrene	ND		96.2	80.2	83	82.5	86	3	61-113/20
78-59-1	Isophorone	ND		96.2	67.9	71	66.7	69	2	56-111/26
91-57-6	2-Methylnaphthalene	ND		96.2	73.2	76	71.5	74	2	56-112/26
88-74-4	2-Nitroaniline	ND		96.2	78.9	82	79.3	82	1	60-109/20
99-09-2	3-Nitroaniline	ND		96.2	67.8	71	72.9	76	7	52-107/21
100-01-6	4-Nitroaniline	ND		96.2	67.6	70	69.4	72	3	59-111/21
91-20-3	Naphthalene	ND		96.2	69.0	72	67.1	70	3	50-104/28
98-95-3	Nitrobenzene	ND		96.2	71.9	75	70.2	73	2	52-105/28
621-64-7	N-Nitroso-di-n-propylamine	ND		96.2	70.7	74	69.4	72	2	51-104/28
86-30-6	N-Nitrosodiphenylamine	ND		96.2	74.2	77	76.7	80	3	57-110/19
85-01-8	Phenanthrene	ND		96.2	81.2	84	83.2	87	2	65-108/20
129-00-0	Pyrene	ND		96.2	83.5	87	82.9	86	1	60-113/20
120-82-1	1,2,4-Trichlorobenzene	ND		96.2	65.9	69	64.4	67	2	45-104/28

CAS No.	Surrogate Recoveries	MS	MSD	F66653-6	Limits
367-12-4	2-Fluorophenol	49%	51%	28%	14-62%
4165-62-2	Phenol-d5	35%	38%	19%	10-40%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29648-MS	R19235.D	1	07/22/09	RB	07/18/09	OP29648	SR926
OP29648-MSD	R19236.D	1	07/22/09	RB	07/18/09	OP29648	SR926
F66653-6	R19234.D	1	07/22/09	RB	07/18/09	OP29648	SR926

The QC reported here applies to the following samples: **Method:** SW846 8270C

F66678-1, F66678-2

CAS No.	Surrogate Recoveries	MS	MSD	F66653-6	Limits
118-79-6	2,4,6-Tribromophenol	81%	84%	81%	33-118%
4165-60-0	Nitrobenzene-d5	71%	72%	66%	42-108%
321-60-8	2-Fluorobiphenyl	71%	72%	67%	40-106%
1718-51-0	Terphenyl-d14	76%	76%	56%	39-121%

GC 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: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3763-MB	CD089261.D	1	07/27/09	SL	n/a	n/a	GCD3763

The QC reported here applies to the following samples: **Method:** SW846 8015

F66678-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	86%	57-129%
98-08-8	aaa-Trifluorotoluene	84%	58-120%

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3764-MB	CD089281.D	1	07/28/09	SL	n/a	n/a	GCD3764

The QC reported here applies to the following samples: **Method:** SW846 8015

F66678-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	93%	57-129%
98-08-8	aaa-Trifluorotoluene	87%	58-120%

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3763-BS	CD089260.D	1	07/27/09	SL	n/a	n/a	GCD3763

The QC reported here applies to the following samples: **Method:** SW846 8015

F66678-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.346	87	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	97%	57-129%
98-08-8	aaa-Trifluorotoluene	101%	58-120%

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3764-BS	CD089280.D	1	07/28/09	SL	n/a	n/a	GCD3764

The QC reported here applies to the following samples: **Method:** SW846 8015

F66678-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.372	93	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	109%	57-129%
98-08-8	aaa-Trifluorotoluene	106%	58-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66874-4MS	CD089268.D	1	07/27/09	SL	n/a	n/a	GCD3763
F66874-4MSD	CD089269.D	1	07/27/09	SL	n/a	n/a	GCD3763
F66874-4	CD089267.D	1	07/27/09	SL	n/a	n/a	GCD3763

The QC reported here applies to the following samples: **Method:** SW846 8015

F66678-1

CAS No.	Compound	F66874-4 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		0.4	0.365	91	0.323	81	12	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F66874-4	Limits
460-00-4	4-Bromofluorobenzene	97%	93%	86%	57-129%
98-08-8	aaa-Trifluorotoluene	104%	97%	83%	58-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66678-2MS	CD089287.D	10	07/28/09	SL	n/a	n/a	GCD3764
F66678-2MSD	CD089288.D	10	07/28/09	SL	n/a	n/a	GCD3764
F66678-2	CD089286.D	10	07/28/09	SL	n/a	n/a	GCD3764

The QC reported here applies to the following samples: **Method:** SW846 8015

F66678-2

CAS No.	Compound	F66678-2 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	4.10		4	7.10	75	7.03	73*	1	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F66678-2	Limits
460-00-4	4-Bromofluorobenzene	99%	107%	100%	57-129%
98-08-8	aaa-Trifluorotoluene	104%	96%	100%	58-120%

Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F66795-31DUP	CD089285.D	5	07/28/09	SL	n/a	n/a	GCD3764
F66795-31	CD089284.D	5	07/28/09	SL	n/a	n/a	GCD3764

The QC reported here applies to the following samples: **Method:** SW846 8015

F66678-2

CAS No.	Compound	F66795-31 mg/l	Q	DUP mg/l	Q	RPD	Limits
	TPH-GRO (C6-C10)	3.46		3.35		3	13

CAS No.	Surrogate Recoveries	DUP	F66795-31	Limits
460-00-4	4-Bromofluorobenzene	106%	107%	57-129%
98-08-8	aaa-Trifluorotoluene	106%	97%	58-120%

GC Semi-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: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29681-MB	XX046676.D	1	07/23/09	NJ	07/21/09	OP29681	GXX644

The QC reported here applies to the following samples: **Method:** SW846 8082

F66678-1, F66678-2

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	97%	38-127%
2051-24-3	Decachlorobiphenyl	92%	25-137%

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29681-MB	XX046709.D	1	07/24/09	NJ	07/21/09	OP29681	GXX645

The QC reported here applies to the following samples: **Method:** SW846 8082

F66678-1, F66678-2

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	0.50	0.25	ug/l	
11104-28-2	Aroclor 1221	ND	0.50	0.40	ug/l	
11141-16-5	Aroclor 1232	ND	0.50	0.40	ug/l	
53469-21-9	Aroclor 1242	ND	0.50	0.25	ug/l	
12672-29-6	Aroclor 1248	ND	0.50	0.25	ug/l	
11097-69-1	Aroclor 1254	ND	0.50	0.25	ug/l	
11096-82-5	Aroclor 1260	ND	0.50	0.25	ug/l	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	94%	38-127%
2051-24-3	Decachlorobiphenyl	92%	25-137%

Method Blank Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29668-MB	LL26989.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66678-1, F66678-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C22)	ND	0.25	0.10	mg/l	
	TPH (> C22-C36)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	94%	42-114%

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29681-BS	XX046675.D	1	07/23/09	NJ	07/21/09	OP29681	GXX644

The QC reported here applies to the following samples: **Method:** SW846 8082

F66678-1, F66678-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
12674-11-2	Aroclor 1016	4	3.6	90	76-117
11096-82-5	Aroclor 1260	4	3.7	93	65-117

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	91%	38-127%
2051-24-3	Decachlorobiphenyl	88%	25-137%

Blank Spike Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29668-BS	LL26988.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66678-1, F66678-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C22)	1	0.883	88	60-140
	TPH (> C22-C36)	1	0.965	97	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	96%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29681-MS	XX046713.D	1	07/24/09	NJ	07/21/09	OP29681	GXX645
OP29681-MSD	XX046714.D	1	07/24/09	NJ	07/21/09	OP29681	GXX645
F66678-2	XX046712.D	1	07/24/09	NJ	07/21/09	OP29681	GXX645

The QC reported here applies to the following samples: **Method:** SW846 8082

F66678-1, F66678-2

CAS No.	Compound	F66678-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		7.69	5.7	74*	5.5	71*	4	76-117/16
11096-82-5	Aroclor 1260	ND		7.69	5.8	75	6.3	82	8	65-117/23

CAS No.	Surrogate Recoveries	MS	MSD	F66678-2	Limits
877-09-8	Tetrachloro-m-xylene	67%	64%	51%	38-127%
2051-24-3	Decachlorobiphenyl	50%	46%	29%	25-137%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F66678
Account: NATVALB Nation View
Project: Holloman AFB; SWMU 122 & 123

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP29668-MS	LL26993.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
OP29668-MSD	LL26994.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025
F66653-3	LL26992.D	1	07/27/09	SL	07/20/09	OP29668	GLL1025

The QC reported here applies to the following samples: **Method:** SW846 8015 M

F66678-1, F66678-2

CAS No.	Compound	F66653-3 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C22)	0.130	J	1.92	1.78	86	1.77	85	1	60-140/30
	TPH (> C22-C36)	ND		1.92	2.01	105	1.99	103	1	60-140/30

CAS No.	Surrogate Recoveries	MS	MSD	F66653-3	Limits
84-15-1	o-Terphenyl	98%	96%	85%	42-114%

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16700
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/20/09

Metal	RL	IDL	MDL	MB raw	final
Mercury	1.0	.14	.15	-0.13	<1.0

Associated samples MP16700: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16700
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/20/09 07/20/09

Metal	F66695-6 Original	DUP	RPD	QC Limits	F66695-6 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	2.8	3	93.3	80-120

Associated samples MP16700: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16700
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/20/09

Metal	F66695-6 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	2.8	3	93.3	0.0	20

Associated samples MP16700: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

8.1.2
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16700
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/20/09

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	2.8	3	93.3	80-120

Associated samples MP16700: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16700
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/20/09

Metal	F66695-6 Original	SDL 1:5	%DIF	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP16700: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16704
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/20/09

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	11	11	0.50	<200
Antimony	6.0	4.5	4.5	-0.23	<6.0
Arsenic	10	3.6	5.4	1.9	<10
Barium	200	5	5	0.0	<200
Beryllium	4.0	1	1	0.13	<4.0
Cadmium	5.0	1	1	-0.080	<5.0
Calcium	1000	100	100	13.6	<1000
Chromium	10	1.6	2	-0.28	<10
Cobalt	50	.83	1	-0.38	<50
Copper	25	2.1	5	-0.55	<25
Iron	300	23	23	-7.7	<300
Lead	10	2	2	1.2	<10
Magnesium	5000	100	100	-1.8	<5000
Manganese	15	.5	1	0.020	<15
Molybdenum	50	2.8	5		
Nickel	40	2.3	2.3	-0.46	<40
Potassium	10000	100	100	219	<10000
Selenium	10	3.1	3.4	0.050	<10
Silver	10	1.2	1.4	-0.29	<10
Sodium	10000	500	500	24.0	<10000
Thallium	10	3.4	3.6	-1.1	<10
Tin	50	2.8	2.8		
Vanadium	50	.66	.9	-0.28	<50
Zinc	20	3.8	7.4	0.77	<20

Associated samples MP16704: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16704
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			07/20/09					07/20/09	
Metal	F66678-1 Original	DUP	RPD	QC Limits	F66678-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	14.1	11.7	18.6	0-20	14.1	29700	27000	109.9	80-120
Antimony	0.0	0.0	NC	0-20	0.0	550	500	110.0	80-120
Arsenic	6.6	3.9	51.4 (a)	0-20	6.6	2170	2000	108.2	80-120
Barium	35.9	36.4	1.4	0-20	35.9	2090	2000	102.7	80-120
Beryllium	0.0	0.0	NC	0-20	0.0	50.4	50	100.8	80-120
Cadmium	0.0	0.0	NC	0-20	0.0	49.1	50	98.2	80-120
Calcium	454000	458000	0.9	0-20	454000	470000	25000	64.0 (b)	80-120
Chromium	0.0	0.0	NC	0-20	0.0	199	200	99.5	80-120
Cobalt	1.9	2.0	5.1	0-20	1.9	494	500	98.4	80-120
Copper	0.0	0.0	NC	0-20	0.0	276	250	110.4	80-120
Iron	0.0	0.0	NC	0-20	0.0	24500	26000	94.2	80-120
Lead	0.0	0.0	NC	0-20	0.0	484	500	96.8	80-120
Magnesium	337000	341000	1.2	0-20	337000	360000	25000	92.0	80-120
Manganese	1040	1060	1.9	0-20	1040	1540	500	100.0	80-120
Molybdenum									
Nickel	14.5	15.8	8.6	0-20	14.5	500	500	97.1	80-120
Potassium	38100	38900	2.1	0-20	38100	76400	25000	153.2N(c	80-120
Selenium	16.2	15.7	3.1	0-20	16.2	2330	2000	115.7	80-120
Silver	0.0	0.0	NC	0-20	0.0	51.5	50	103.0	80-120
Sodium	537000	940000	0.3	0-20	537000	962000	25000	100.0	80-120
Thallium	4.2	0.0	200.0(a)	0-20	4.2	1870	2000	93.3	80-120
Tin									
Vanadium	15.0	15.3	2.0	0-20	15.0	514	500	99.8	80-120
Zinc	14.0	14.3	2.1	0-20	14.0	497	500	96.6	80-120

Associated samples MP16704: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(c) Spike recovery indicates possible matrix interference.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16704
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/20/09

Metal	F66678-1 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum	14.1	30200	27000	111.8	1.7	20
Antimony	0.0	556	500	111.2	1.1	20
Arsenic	6.6	2170	2000	108.2	0.0	20
Barium	35.9	2130	2000	104.7	1.9	20
Beryllium	0.0	50.3	50	100.6	0.2	20
Cadmium	0.0	49.2	50	98.4	0.2	20
Calcium	454000	462000	25000	32.0 (a)	1.7	20
Chromium	0.0	200	200	100.0	0.5	20
Cobalt	1.9	494	500	98.4	0.0	20
Copper	0.0	281	250	112.4	1.8	20
Iron	0.0	24500	26000	94.2	0.0	20
Lead	0.0	484	500	96.8	0.0	20
Magnesium	337000	353000	25000	64.0 (a)	2.0	20
Manganese	1040	1530	500	98.0	0.7	20
Molybdenum						
Nickel	14.5	500	500	97.1	0.0	20
Potassium	38100	77000	25000	155.6N(b	0.8	20
Selenium	16.2	2360	2000	117.2	1.3	20
Silver	0.0	52.8	50	105.6	2.5	20
Sodium	537000	951000	25000	56.0 (a)	1.2	20
Thallium	4.2	1880	2000	93.8	0.5	20
Tin						
Vanadium	15.0	519	500	100.8	1.0	20
Zinc	14.0	495	500	96.2	0.4	20

Associated samples MP16704: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) Spike recovery indicates possible matrix interference.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16704
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/20/09

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	26800	27000	99.3	80-120
Antimony	520	500	104.0	80-120
Arsenic	1980	2000	99.0	80-120
Barium	2060	2000	103.0	80-120
Beryllium	53.1	50	106.2	80-120
Cadmium	52.4	50	104.8	80-120
Calcium	25500	25000	102.0	80-120
Chromium	210	200	105.0	80-120
Cobalt	525	500	105.0	80-120
Copper	262	250	104.8	80-120
Iron	25900	26000	99.6	80-120
Lead	528	500	105.6	80-120
Magnesium	24500	25000	98.0	80-120
Manganese	529	500	105.8	80-120
Molybdenum				
Nickel	530	500	106.0	80-120
Potassium	25400	25000	101.6	80-120
Selenium	2000	2000	100.0	80-120
Silver	48.1	50	96.2	80-120
Sodium	24700	25000	98.8	80-120
Thallium	2080	2000	104.0	80-120
Tin				
Vanadium	504	500	100.8	80-120
Zinc	522	500	104.4	80-120

Associated samples MP16704: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

QC Batch ID: MP16704
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 07/20/09

Metal	F66678-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	14.1	0.00	100.0(a)	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	6.58	0.00	100.0(a)	0-10
Barium	35.9	38.4	6.9	0-10
Beryllium	0.00	0.00	NC	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	454000	535000	17.8*(b)	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt	1.85	0.00	100.0(a)	0-10
Copper	0.00	0.00	NC	0-10
Iron	0.00	0.00	NC	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	337000	365000	8.2	0-10
Manganese	1040	1150	9.8	0-10
Molybdenum				
Nickel	14.5	14.2	2.5	0-10
Potassium	38100	34500	9.3	0-10
Selenium	16.2	0.00	100.0(a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium	537000	847000	9.6	0-10
Thallium	4.24	0.00	100.0(a)	0-10
Tin				
Vanadium	15.0	16.4	9.4	0-10
Zinc	14.0	0.00	100.0(a)	0-10

Associated samples MP16704: F66678-1, F66678-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

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: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Solids, Total Dissolved	GN35904	100	15.0	mg/l				

Associated Samples:
Batch GN35904: F66678-1, F66678-2
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F66678
Account: NATVALB - Nation View
Project: Holloman AFB; SWMU 122 & 123

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN35904	F66761-1	mg/l	64.0	64.0	0.0	0-5%

Associated Samples:
Batch GN35904: F66678-1, F66678-2
(*) Outside of QC limits

9.2
9

APPENDIX G
DATA VALIDATION REPORTS

Data Validation Report

This report contains the results of the review and validation of the specified data package performed by Marcia Olive, Bhate Environmental Associates, Inc., Denver, Colorado.

Introduction

This data validation report covers samples taken from Holloman Air Force Base, New Mexico, on July 7, 2009. One aqueous sample and one trip blank were taken from Solid Waste Management Unit (SWMU) 123 for analyses. All analyses were performed by Accutest Laboratories of Orlando, Florida. The specific sample included in this validation was:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
SWMU123-MW5	Water	7/7/2009	F66494 & F66494R	VOCs (SW8260B), SVOCs (SW8270C), TPH-DRO/ORO/GRO (SW8015/8015M), TAL Metals (SW6010B/7470A), PCBs (SW8082), TDS (2540C)
Notes: ID – Identification, SDG – Sample Delivery Group, VOCs – Volatile Organic Compounds, Semi-volatile Organic Compounds, TPH – Total Petroleum Hydrocarbons, DRO – Diesel Range Organics, ORO – Oil Range Organics, GRO – Gasoline Range Organics, TAL – Target Analyte List, PCBs – Polychlorinated Biphenyls, TDS – Total Dissolved Solids				

This data was validated against the laboratory's quality assurance/quality control (QA/QC) limits using the guidelines and practices published in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, June 2008).

Sample Handling and Holding Times

All samples were properly preserved and transferred under chain-of-custody to the laboratory for analysis and analyzed within the required holding times with the following exception. The TPH-GRO analysis was analyzed beyond hold time. Therefore, the non-detected result was considered estimated and qualified as such; "UJ".

Blanks

No compounds were detected in the trip blank or method blank(s).

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The laboratory control sample (LCS) results, associated with the samples, met the QC requirements for the percent recoveries (%Rs) for all analysis.

The semi-volatile surrogate phenol-d5 and 2-fluorophenol were above control limits for the matrix spike (MS) and matrix spike duplicate (MSD) analysis. No compounds were detected in the sample therefore; no qualification of the data was required.

Matrix Spike/Matrix Spike Duplicates

The volatile MS/MSD %Rs for 2-chloroethyl vinyl ether, cis-1,3-dichloropropene, and trans-1,3-dichloropropene were outside control limits along with the relative percent difference (RPD) for acrolein, carbon tetrachloride, and methyl tert butyl ether.

The semi-volatile MS and/or MSD %Rs were outside control limits for multiple compounds.

The MS/MSD %Rs for Aroclor 1016 were below control limits.

All compounds were cross referenced with the LCS data, which was in control; therefore no qualification of the sample data was required.

The MS and/or MSD %Rs for calcium, copper, magnesium, potassium, and sodium were outside QC limits as well as the RPD for sodium. Control limits were not applicable for calcium, magnesium, and sodium due to the sample exceeding the spiked concentration by a factor of four or more. Since the potassium recovery was greater than (>) 125% it was qualified as estimated, "J".

Project Specific Quality Assurance/Quality Control

The RPD for the duplicate of aluminum, nickel, and zinc were above QC limits. Since the sample or duplicate concentration was zero, the RPDs were acceptable and no qualification was required.

The RPD for the duplicate for TDS was outside QC limits. Since the sample concentration for TDS was greater than (>) 5x the reporting limit (RL), it was qualified as estimated, "J".

The serial dilution for arsenic, barium, calcium, potassium, and selenium were above QC limits. Calcium and potassium were the only two elements to yield sample concentrations >50x the method detection limit (MDL) and were qualified as estimated, "J".

Compound Quantitation and Reporting Limits

In order to quantify the data a dilution was required for the analysis of sodium and TDS. Elevated reporting limits were reported.

Overall Assessment of Data

Overall, the data is suitable for the intended data usage. All analyses were performed, and the data met the required QC criteria except where noted. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	Qualifier
SWMU123-MW5	Calcium Potassium TDS TPH-GRO	491,000 J (µg/L) 29,200 J (µg/L) 7,430 J (mg/L) UJ (mg/L)

Notes: µg/L – micrograms per liter, mg/L – milligrams per liter

Data Validation Report

This report contains the results of the review and validation of the specified data package performed by Marcia Olive, Bhate Environmental Associates, Inc., Denver, Colorado.

Introduction

This data validation report covers samples taken from Holloman Air Force Base, New Mexico, on July 7 & 8, 2009. Three aqueous samples and three trip blanks were taken from Solid Waste Management Unit (SWMU) 123 for analyses. All analyses were performed by Accutest Laboratories of Orlando, Florida. The specific samples included in this validation were:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
SWMU123-MW3	Water	7/7/2009	F66528	VOCs (SW8260B), SVOCs (SW8270C), TPH-DRO/ORO/ GRO (SW8015/8015M), TAL Metals (SW6010B/7470A), PCBs (SW8082), TDS (2540C)
SWMU123-MW3-A		7/7/2009		
SWMU123-MW4		7/8/2009		
Notes: ID – Identification, SDG – Sample Delivery Group, VOCs – Volatile Organic Compounds, Semi-volatile Organic Compounds, TPH – Total Petroleum Hydrocarbons, DRO – Diesel Range Organics, ORO – Oil Range Organics, GRO – Gasoline Range Organics, TAL – Target Analyte List, PCBs – Polychlorinated Biphenyls, TDS – Total Dissolved Solids				

This data was validated against the laboratory's quality assurance/quality control (QA/QC) limits using the guidelines and practices published in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, June 2008).

Sample Handling and Holding Times

All samples were properly preserved and transferred under chain-of-custody to the laboratory for analysis and analyzed within the required holding times.

Blanks

Methylene chloride was detected in the trip blank associated with sample SWMU123-MW4. This compound was not detected in the sample and no qualification was required.

No compounds were detected in the method blanks for all analysis.

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The volatile laboratory control sample (LCS) results for acrylonitrile and cis-1,3-dichloropropene were above QC limits associated with all samples. Since these compounds were not detected, no qualification was required.

The surrogate, o-terphenyl, for the analysis of extractable TPH was diluted out of sample SWMU123-MW3. The LCS and blank surrogate recoveries were within control, therefore, no qualification was required.

The semi-volatile surrogate phenol-d5 was above control limits for the matrix spike (MS) and matrix spike duplicate (MSD) analysis. Since only one surrogate was outside control limits, no qualification of the data was required.

Matrix Spike/Matrix Spike Duplicates

The volatile MS/MSD percent recovery (%R) for 2-chloroethyl vinyl ether and the relative percent difference (RPD) for naphthalene and 1,2,3-trichlorobenzene were outside control limits.

The semi-volatile MS and/or MSD %Rs were outside control limits for 4-nitrophenol, phenol, and benzidine.

The MS/MSD %R for Aroclor 1016 was below control limits.

All compounds were cross referenced with the LCS data, which was in control; therefore no qualification of the sample data was required.

The MS/MSD %Rs for calcium, magnesium, manganese, potassium, and sodium were outside QC limits. Control limits were not applicable for calcium, magnesium, and sodium due to the sample exceeding the spiked concentration by a factor of four or more. Since the potassium recovery was greater than (>) 125% it was qualified as estimated, “J”, in all samples.

Project Specific Quality Assurance/Quality Control

The RPD for the duplicate for TDS was outside QC limits. Since the original result for TDS, used in the determination of the RPD, was greater than (>) 5x the reporting limit (RL); TDS was qualified as estimated, “J”, in all samples.

The serial dilution for potassium was above QC limits. Only sample SWMU123-MW4 yielded a sample concentrations >50x the method detection limit (MDL) and was qualified as estimated, “J”.

One field duplicate sample was submitted as part of this sampling event. The RPD for TPH-DRO was outside the site specific control limits and qualified as estimated, “J”, in both samples.

Compound Quantitation and Reporting Limits

All samples required a dilution; to quantify TDS and due to matrix interference for all metals with the exception of mercury. Additionally, a dilution was required, to quantify

the results of TPH-DRO in sample SWMU123-MW3. Elevated reporting limits were reported.

Overall Assessment of Data

Overall, the data is suitable for the intended data usage. All analyses were performed, and the data met the required QC criteria except where noted. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	*Qualifier
SWMU123-MW3	TDS	4,570 J
	TPH-DRO	37.0 J
	Potassium	10,500 J
SWMU123-MW3-A	TDS	3,830 J
	TPH-DRO	0.548 J
	Potassium	11,600 J
SWMU123-MW4	Potassium	38,700 J
	TDS	5,190 J

* Metals are in micrograms per liter (µg/L), TPH & TDS are in milligrams per liter (mg/L)

Data Validation Report

This report contains the results of the review and validation of the specified data package performed by Marcia Olive, Bhate Environmental Associates, Inc., Denver, Colorado.

Introduction

This data validation report covers samples taken from Holloman Air Force Base, New Mexico, on July 9, 2009. Nine soil samples and three trip blanks were taken from Solid Waste Management Unit (SWMU) 122 for analyses. All analyses were performed by Accutest Laboratories of Orlando, Florida. The specific samples included in this validation were:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
SWMU122-DP01-10.5	Soil	7/9/2009	F66564	VOCs (SW8260B), SVOCs (SW8270C), TPH-DRO/ORO/ GRO (SW8015/8015M), TAL Metals (SW6010B/7471A), PCBs (SW8082)
SWMU122-DP01-5				
SWMU122-DP02-5				
SWMU122-DP02-10				
SWMU122-DP03-5				
SWMU122-DP03-10				
SWMU122-DP04-5				
SWMU122-DP04-10				
SWMU122-DP04-10-A				
Notes: ID – Identification, SDG – Sample Delivery Group, VOCs – Volatile Organic Compounds, Semi-volatile Organic Compounds, TPH – Total Petroleum Hydrocarbons, DRO – Diesel Range Organics, ORO – Oil Range Organics, GRO – Gasoline Range Organics, TAL – Target Analyte List, PCBs – Polychlorinated Biphenyls				

This data was validated against the laboratory's quality assurance/quality control (QA/QC) limits using the guidelines and practices published in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, June 2008).

Sample Handling and Holding Times

All samples were properly preserved and transferred under chain-of-custody to the laboratory for analysis and analyzed within the required holding times with the following exception. The three trip blanks were analyzed outside hold time; with the exception of methylene chloride in trip blank 3, no other compounds were detected. Therefore, no qualification of the data was required outside samples SWMU122-DP04-10 and SWMU122-DP04-10-A which had positive results for methylene chloride. (See narrative below for qualification).

Blanks

Trip blank 3 yielded a positive detection for methylene chloride. Only the associated samples SWMU122-DP04-10 and SWMU122-DP04-10-A had positive results for this compound and were qualified as estimated, "J".

The method blank, associated with trip blank 1, yielded a positive result for 2-hexanone. Since this compound was not detected in the trip blank or associated samples, no qualification was required.

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The volatile laboratory control sample (LCS) results for 1,2,3-trichlorobenzene was above QC limits associated with all samples. Since this compound was not detected in the samples, no qualification was required.

The LCS recovery for isopropylbenzene was above QC limits associated with trip blanks 2 and 3. This compound was not detected and no qualification was deemed necessary.

Matrix Spike (MS)/Matrix Spike Duplicates (MSD)

The volatile MS/MSD percent recoveries (%Rs) for 1,2-dibromoethane and dibromochloromethane were outside control limits.

The semi-volatile MS and/or MSD %Rs were outside control limits for 2,4-dinitrophenol, 4,6-dinitro-o-cresol, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachlorobutadiene, hexachloroethane, and 1,2,4-trichlorobenzene.

The MS/MSD %Rs for TPH-DRO were outside QC limits.

All compounds were cross referenced with the LCS data, which was in control; therefore no qualification of the sample data was required.

The MS and/or MSD %Rs for aluminum, antimony, calcium, iron, magnesium, manganese, and sodium, along with the relative percent difference (RPD) for antimony, were outside QC limits. Control limits were not applicable for aluminum, calcium, iron, and magnesium due to the sample exceeding the spiked concentration by a factor of four or more. Since antimony and manganese were outside validation criteria they were qualified as estimated non-detected, “UJ”, or estimated, “J”, in all samples. The sodium MS/MSD recoveries were below 125% and did not required qualification.

Project Specific Quality Assurance/Quality Control

The RPD for the duplicate for cadmium was outside QC limits. Due to low duplicate and sample concentration, the RPD was acceptable.

The serial dilution for arsenic, cadmium, calcium, chromium, cobalt, iron, lead, magnesium, manganese, nickel, selenium, vanadium, and zinc were above QC limits. Those metals that yielded a sample concentration greater than (>) 50x the method detection limit (MDL) were qualified as estimated, “J” (see table below).

One field duplicate sample was submitted as part of this sampling event. The RPD for arsenic, barium, cobalt, magnesium, copper, manganese and vanadium were outside the site specific control limits and were qualified as estimated, “J”, in both samples.

Compound Quantitation and Reporting Limits

Due to matrix interference, a dilution was required for the analysis of multiple metals. Elevated reporting limits were reported.

Overall Assessment of Data

Overall, the data is suitable for the intended data usage. All analyses were performed, and the data met the required QC criteria except where noted. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	*Qualifier
SWMU122-DP01-10.5	Antimony	3.4 UJ
	Calcium	224,000 J
	Iron	1,890 J
	Magnesium	1,790 J
	Manganese	27.0 J
	Vanadium	5.2 J
SWMU122-DP01-5	Antimony	1.1 UJ
	Calcium	82,800 J
	Chromium	5.3 J
	Iron	4,210 J
	Magnesium	5,250 J
	Manganese	66.6 J
	Vanadium	11.7 J
	Zinc	12.9 J
SWMU122-DP02-5	Antimony	3.6 UJ
	Calcium	227,000 J
	Iron	1,760 J
	Magnesium	4,150 J
	Manganese	38.4 J
SWMU122-DP02-10	Antimony	1.9 UJ
	Calcium	178,000 J
	Chromium	12.4 J
	Cobalt	4.6 J
	Iron	9,480 J
	Magnesium	18,000 J
	Manganese	150 J
	Vanadium	23.2 J
	Zinc	27.9 J
SWMU122-DP03-5	Antimony	3.3 UJ
	Calcium	240,000 J
	Iron	1,290 J
	Magnesium	2,100 J
	Manganese	25.9 J
SWMU122-DP03-10	Antimony	2.9 UJ
	Calcium	188,000 J
	Iron	9,190 J
	Magnesium	18,600 J
	Manganese	105 J
	Vanadium	22.0 J

Sample ID	Parameter	*Qualifier
SWMU122-DP04-5	Antimony	3.0 UJ
	Calcium	201,000 J
	Iron	2,730 J
	Magnesium	3,660 J
	Manganese	39.5 J
	Vanadium	8.5 J
SWMU122-DP04-10	Arsenic	3.0 J
	Barium	75.6 J
	Cobalt	2.0 J
	Magnesium	5,220 J
	Vanadium	15.4 J
	Calcium	155,000 J
	Iron	6,590 J
	Manganese	71.4 J
	Methylene chloride	6.5 J
	Copper	3.2 J
	Antimony	2.9 UJ
SWMU122-DP04-10-A	Arsenic	7.5 J
	Barium	139 J
	Cobalt	3.4 J
	Magnesium	12,400 J
	Vanadium	27.4 J
	Calcium	115,000 J
	Iron	8,490 J
	Manganese	105 J
	Methylene chloride	7.1 J
	Antimony	1.3 UJ
	Copper	5.3 J

* Metals are in milligrams per kilogram (mg/kg), VOCs are in micrograms per kilogram (μg/kg)

Data Validation Report

This report contains the results of the review and validation of the specified data package performed by Marcia Olive, Bhate Environmental Associates, Inc., Denver, Colorado.

Introduction

This data validation report covers samples taken from Holloman Air Force Base, New Mexico, on July 9, 2009. Two aqueous samples and four trip blanks were taken from Solid Waste Management Unit (SWMU) 122 for analyses. All analyses were performed by Accutest Laboratories of Orlando, Florida. The specific samples included in this validation were:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
SWMU122-MW10	Water	7/9/2009	F66576	VOCs (SW8260B), SVOCs (SW8270C), TPH-DRO/ORO/ GRO (SW8015/8015M), TAL Metals (SW6010B/7470A), PCBs (SW8082), TDS (2540C)
SWMU122-MW10-A		7/9/2009		
Notes: ID – Identification, SDG – Sample Delivery Group, VOCs – Volatile Organic Compounds, Semi-volatile Organic Compounds, TPH – Total Petroleum Hydrocarbons, DRO – Diesel Range Organics, ORO – Oil Range Organics, GRO – Gasoline Range Organics, TAL – Target Analyte List, PCBs – Polychlorinated Biphenyls, TDS – Total Dissolved Solids				

This data was validated against the laboratory's quality assurance/quality control (QA/QC) limits using the guidelines and practices published in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, June 2008).

Sample Handling and Holding Times

All samples were properly preserved and transferred under chain-of-custody to the laboratory for analysis and analyzed within the required holding times.

Blanks

Methylene chloride was detected in the trip blank associated with sample SWMU122-MW10. This compound was not detected in the sample and no qualification was required.

Methyl chloride and methylene chloride were detected in the trip blanks associated with the matrix spike sample and duplicate (MS/MSD), respectively. These compounds had no effect on the sample data and did not warrant any qualification.

No compounds were detected in the method blanks for all analysis.

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The volatile laboratory control sample (LCS) results for bromochloromethane and chloroform were above QC limits associated with all samples. Since these compounds were not detected in the samples, no qualification was required.

The semi-volatile surrogate phenol-d5 was above control limits for the MS and MSD analysis. Since only one surrogate was outside control limits, no qualification of the data was required.

Matrix Spike/Matrix Spike Duplicates

The volatile MS and/or MSD percent recoveries (%Rs) for bromochloromethane, chloroform, 2-chloroethyl vinyl ether, and methylene bromide were outside control limits.

The semi-volatile MS and/or MSD %Rs were outside control limits for 4-nitrophenol, phenol, and benzidine.

All compounds were cross referenced with the LCS data, which was either in control or the compounds were not detected in the sample(s); therefore no qualification of the sample data was required.

The MS %Rs for calcium and potassium were outside QC limits. Control limits were not applicable for calcium due to the sample exceeding the spiked concentration by a factor of four or more. Since the recovery for potassium was greater than (>) 125%; it was qualified as estimated, “J”, in both samples.

Project Specific Quality Assurance/Quality Control

The RPD for the duplicate for TDS was outside QC limits. Since the sample concentrations for TDS were >5x the reporting limit (RL) they were qualified as estimated, “J”.

The serial dilution for aluminum, arsenic, calcium, selenium, and sodium were above QC limits. Calcium yielded a sample concentration >50x the method detection limit (MDL), in both samples, and was qualified as estimated, “J”.

One field duplicate sample was submitted as part of this sampling event. The RPD for TDS was outside the site specific control limits and was qualified as estimated, “J”, in both samples.

Compound Quantitation and Reporting Limits

Due to matrix interference, a dilution was required for the analysis of antimony, arsenic, calcium, lead, and selenium in both samples. Also, sample SWMU122-MW10 required a dilution for TDS due to matrix issues. Elevated reporting limits were reported.

Overall Assessment of Data

Overall, the data is suitable for the intended data usage. All analyses were performed, and the data met the required QC criteria except where noted. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	*Qualifier
SWMU122-MW10	TDS	5,600 J
	Calcium	598,000 J
	Potassium	6,820 J
SWMU122-MW10-A	TDS	3,520 J
	Calcium	618,000 J
	Potassium	6,920 J

* Metals are in micrograms per liter (µg/L), TDS is in milligrams per liter (mg/L)

Data Validation Report

This report contains the results of the review and validation of the specified data package performed by Marcia Olive, Bhate Environmental Associates, Inc., Denver, Colorado.

Introduction

This data validation report covers samples taken from Holloman Air Force Base, New Mexico, on July 9 & 10, 2009. Two aqueous samples and two trip blanks were taken from Solid Waste Management Unit (SWMU) 122 for analyses. All analyses were performed by Accutest Laboratories of Orlando, Florida. The specific samples included in this validation were:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
SWMU122-MW11	Water	7/9/2009 7/10/2009	F66604	VOCs (SW8260B), SVOCs (SW8270C), TPH-DRO/ORO/ GRO (SW8015/8015M), TAL Metals (SW6010B/7470A), PCBs (SW8082), TDS (2540C)
SWMU122-MW12	Water	7/9/2009 7/10/2009		
Notes: ID – Identification, SDG – Sample Delivery Group, VOCs – Volatile Organic Compounds, Semi-volatile Organic Compounds, TPH – Total Petroleum Hydrocarbons, DRO – Diesel Range Organics, ORO – Oil Range Organics, GRO – Gasoline Range Organics, TAL – Target Analyte List, PCBs – Polychlorinated Biphenyls, TDS – Total Dissolved Solids				

This data was validated against the laboratory's quality assurance/quality control (QA/QC) limits using the guidelines and practices published in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, June 2008).

Sample Handling and Holding Times

All samples were properly preserved and transferred under chain-of-custody to the laboratory for analysis and analyzed within the required holding times.

Blanks

The trip blank associated with SWMU122-MW11 yielded a detection for 1,1-dichloroethylene. This compound was not detected in the sample and no qualification was required.

The method blank associated with both samples yielded a detection for 1,2,3-trichlorobenzene. This compound was not detected in either sample and therefore, no qualification was required.

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The laboratory control sample (LCS) results, associated with the samples, met the QC requirements for the percent recoveries (%Rs) for all analysis.

The semi-volatile surrogate phenol-d5 was above control limits for the matrix spike (MS) and matrix spike duplicate (MSD) analysis. Since only one surrogate was outside control limits, no qualification of the data was required.

Matrix Spike/Matrix Spike Duplicates

The volatile MS/MSD %Rs for 2-chloroethyl vinyl ether and cis-1,2-dichloroethylene were outside control limits.

The semi-volatile MS and/or MSD %Rs were outside control limits for 4-nitrophenol, phenol, and benzidine.

The relative percent difference (RPD) for TPH-GRO was above control limits.

The data was cross referenced with the LCS data, which was in control; therefore no qualification of the sample data was required.

The MS %Rs for calcium and potassium were outside control limits. The sample concentration of calcium exceeded the spiked concentration by a factor of four; therefore control limits were not applicable. Regarding potassium, since the recovery was greater than (>) 125% it was qualified as estimated, "J", in both samples.

Project Specific Quality Assurance/Quality Control

The serial dilution for aluminum, arsenic, calcium, selenium, and sodium were above QC limits. Calcium and sodium were the only two elements to yield sample concentrations >50x the MDL and were qualified as estimated, "J", in both samples.

Compound Quantitation and Reporting Limits

In order to quantify the data a dilution was required for the analysis of sodium in the two aqueous samples. Elevated reporting limits were reported.

Overall Assessment of Data

Overall, the data is suitable for the intended data usage. All analyses were performed, and the data met the required QC criteria except where noted. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	*Qualifier
SWMU122-MW11	Calcium Sodium Potassium	454,000 J 1,120,000 J 73,000 J
SWMU122-MW12	Calcium Sodium Potassium	430,000 J 3,470,000 J 68,600 J

* Units are in micrograms per liter (µg/L)

Data Validation Report

This report contains the results of the review and validation of the specified data package performed by Marcia Olive, Bhate Environmental Associates, Inc., Denver, Colorado.

Introduction

This data validation report covers samples taken from Holloman Air Force Base, New Mexico, on July 13, 2009. One aqueous sample and one trip blank were taken from Solid Waste Management Unit (SWMU) 122 for analyses. All analyses were performed by Accutest Laboratories of Orlando, Florida. The specific sample included in this validation was:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
SWMU122-MW06	Water	7/13/2009	F66619	VOCs (SW8260B), SVOCs (SW8270C), TPH-DRO/ORO/ GRO (SW8015/8015M), TAL Metals (SW6010B/7470A), PCBs (SW8082), TDS (2540C)
Notes: ID – Identification, SDG – Sample Delivery Group, VOCs – Volatile Organic Compounds, Semi-volatile Organic Compounds, TPH – Total Petroleum Hydrocarbons, DRO – Diesel Range Organics, ORO – Oil Range Organics, GRO – Gasoline Range Organics, TAL – Target Analyte List, PCBs – Polychlorinated Biphenyls, TDS – Total Dissolved Solids				

This data was validated against the laboratory's quality assurance/quality control (QA/QC) limits using the guidelines and practices published in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, June 2008).

Sample Handling and Holding Times

All samples were properly preserved and transferred under chain-of-custody to the laboratory for analysis and analyzed within the required holding times.

Blanks

No compounds were detected in the trip blank or method blank(s).

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The laboratory control sample (LCS) results were below QC limits for acrolein. This compound was not detected in the sample and was subsequently qualified estimated non-detected, "UJ".

Matrix Spike (MS)/Matrix Spike Duplicates (MSD)

The volatile MS/MSD percent recoveries (%Rs) and/or relative percent difference (RPD) for acetone, acrolein, sec-butylbenzene, tert-butylbenzene, 2-chloroethyl vinyl ether, and 1,2,3-trichloropropane were outside control limits.

The semi-volatile MS/MSD %Rs were outside control limits for multiple compounds.

The RPD for TPH-GRO was above control limits.

All compounds were cross referenced with the LCS data, which was in control (with the exception of acrolein); therefore no additional qualification of the sample data was required.

The MS %Rs for calcium and potassium were outside QC limits. Control limits were not applicable for calcium due to the sample exceeding the spiked concentration by a factor of four or more. Since the potassium recovery was greater than (>) 125% it was qualified as estimated, "J".

Project Specific Quality Assurance/Quality Control

The serial dilution for aluminum, arsenic, calcium, selenium, and sodium were above QC limits. Calcium and sodium were the only two elements to yield sample concentrations >50x the method detection limit (MDL) and were qualified as estimated, "J".

Compound Quantitation and Reporting Limits

In order to quantify the data a dilution was required for the analysis of sodium. Elevated reporting limits were reported.

Overall Assessment of Data

Overall, the data is suitable for the intended data usage. All analyses were performed, and the data met the required QC criteria except where noted. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	*Qualifier
SWMU122-MW06	Acrolein Calcium Sodium Potassium	UJ 460,000 J 1,190,000 J 55,100 J

*Results are in micrograms per liter (µg/L)

Data Validation Report

This report contains the results of the review and validation of the specified data package performed by Marcia Olive, Bhate Environmental Associates, Inc., Denver, Colorado.

Introduction

This data validation report covers samples taken from Holloman Air Force Base, New Mexico, on July 13 & 14, 2009. Six aqueous samples and six trip blanks were taken from Solid Waste Management Unit (SWMU) 122 for analyses. All analyses were performed by Accutest Laboratories of Orlando, Florida. The specific samples included in this validation were:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
SWMU122-MW04	Water	7/14/2009	F66653	VOCs (SW8260B), SVOCs (SW8270C), TPH-DRO/ORO/ GRO (SW8015/8015M), TAL Metals (SW6010B/7470A), PCBs (SW8082), TDS (2540C)
SWMU122-MW02				
SWMU122-MW03				
SWMU122-MW07		7/13/2009		
SWMU122-MW01				
SWMU122-MW08				
Notes: ID – Identification, SDG – Sample Delivery Group, VOCs – Volatile Organic Compounds, Semi-volatile Organic Compounds, TPH – Total Petroleum Hydrocarbons, DRO – Diesel Range Organics, ORO – Oil Range Organics, GRO – Gasoline Range Organics, TAL – Target Analyte List, PCBs – Polychlorinated Biphenyls, TDS – Total Dissolved Solids				

This data was validated against the laboratory's quality assurance/quality control (QA/QC) limits using the guidelines and practices published in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, June 2008).

Sample Handling and Holding Times

Sample SWMU122-MW01 was not preserved to a pH<2 which decreased the hold time for volatiles and subsequently resulted in the analysis being run outside hold time. Therefore, the detected compounds were qualified as estimated, "J", and the non-detected ones were qualified as estimated non-detected, "UJ".

Blanks

Methylene chloride was detected in the trip blank associated with samples SWMU122-MW07, SWMU122-MW01, and SWMU122-MW08. This compound was not detected in the samples and no qualification was required.

No compounds were detected in the method blanks for all analysis.

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The volatile laboratory control sample (LCS) results were within QC limits for all analysis.

Matrix Spike (MS)/Matrix Spike Duplicates (MSD)

The volatile MS and/or MSD percent recoveries (%Rs) for acetone, 2-chloroethyl vinyl ether, and p-dichlorobenzene were outside control limits.

The semi-volatile MS %R and relative percent difference (RPD) were outside control limits for benzidine.

The RPD for TPH-GRO was outside control limits.

All compounds were cross referenced with the LCS data, which was in control; therefore no qualification of the sample data was required.

The MS and/or MSD %Rs for calcium, magnesium, sodium, and potassium were outside QC limits. Control limits were not applicable for calcium, magnesium, and sodium due to the sample exceeding the spiked concentration by a factor of four or more. Since the potassium recovery was greater than (>) 125% it was qualified as estimated, “J”, in all samples.

Project Specific Quality Assurance/Quality Control

The RPD for the duplicate of aluminum, arsenic, and cobalt were above QC limits. The RPD was acceptable for aluminum due to low duplicate and sample concentrations. Arsenic and cobalt were qualified as either estimated, “J’, or as estimated non-detected, “UJ”.

The serial dilution for aluminum, arsenic, calcium, cobalt, iron, potassium, selenium, sodium, vanadium, and zinc was above QC limits. Only the metals that yielded a sample concentration > 50x the method detection limit (MDL) required a qualification of estimated, “J”.

The analysis of semi-volatiles was re-extracted and re-analyzed outside hold time for sample SWMU122-MW04. Since the data was reported from the original run, no qualification of the data was required.

Compound Quantitation and Reporting Limits

In order to quantify the data, some samples required a dilution for TDS and various metals. Elevated reporting limits were reported.

Overall Assessment of Data

Overall, the data is suitable for the intended data usage. All analyses were performed, and the data met the required QC criteria except where noted. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	*Qualifier
SWMU122-MW04	Arsenic	6.0 J
	Cobalt	3.1 J
	Potassium	27,400 J
	Calcium	464,000 J
	Iron	1,210 J
	Sodium	600,000 J
SWMU122-MW02	Arsenic	12.9 J
	Cobalt	1.0 UJ
	Potassium	33,300 J
	Calcium	485,000 J
	Sodium	374,000 J
SWMU122-MW03	Arsenic	11.8 J
	Cobalt	5.4 J
	Potassium	17,800 J
	Calcium	571,000 J
	Sodium	145,000 J
	Vanadium	51.4 J
SWMU122-MW07	Arsenic	7.8 J
	Cobalt	5.1 UJ
	Potassium	28,800 J
	Calcium	477,000 J
	Sodium	604,000 J
SWMU122-MW01	All non-detected VOCs	UJ
	Acetone	12.8 J
	Chloroform	1.6 J
	Arsenic	10.7 J
	Cobalt	1.6 J
	Potassium	29,600 J
	Calcium	468,000 J
	Sodium	251,000 J
SWMU122-MW08	Arsenic	17.1 J
	Cobalt	1.0 UJ
	Potassium	57,200 J
	Calcium	447,000 J
	Sodium	597,000 J
	Vanadium	56.0 J

* Units are in micrograms per liter (µg/L)

Data Validation Report

This report contains the results of the review and validation of the specified data package performed by Marcia Olive, Bhate Environmental Associates, Inc., Denver, Colorado.

Introduction

This data validation report covers samples taken from Holloman Air Force Base, New Mexico, on July 14, 2009. Two aqueous samples and two trip blanks were taken from Solid Waste Management Unit (SWMU) 122 for analyses. All analyses were performed by Accutest Laboratories of Orlando, Florida. The specific samples included in this validation were:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
SWMU122-MW05	Water	7/14/2009	F66678	VOCs (SW8260B), SVOCs (SW8270C), TPH-DRO/ORO/ GRO (SW8015/8015M), TAL Metals (SW6010B/7470A), PCBs (SW8082), TDS (2540C)
SWMU122-MW09				
Notes: ID – Identification, SDG – Sample Delivery Group, VOCs – Volatile Organic Compounds, Semi-volatile Organic Compounds, TPH – Total Petroleum Hydrocarbons, DRO – Diesel Range Organics, ORO – Oil Range Organics, GRO – Gasoline Range Organics, TAL – Target Analyte List, PCBs – Polychlorinated Biphenyls, TDS – Total Dissolved Solids				

This data was validated against the laboratory's quality assurance/quality control (QA/QC) limits using the guidelines and practices published in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, June 2008).

Sample Handling and Holding Times

The analysis for TDS was performed outside hold time. The results were qualified as estimated, "J", in both samples.

Blanks

The method blank, associated with both samples, yielded a detection for 1,2,3-trichlorobenzene. This compound was not detected in the samples therefore, no qualification was required. Also, TDS was detected in the method blank and was qualified as estimated, "J", in both samples.

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The volatile laboratory control sample (LCS) results for 1,1-dichloroethylene, trans-1,2-dichloroethylene, and hexane were above QC limits associated with both samples. Only sample SWMU122-MW09 yielded a positive result for hexane; therefore it was qualified as estimated. "J".

Matrix Spike (MS)/Matrix Spike Duplicates (MSD)

The volatile MS/MSD percent recoveries (%Rs) for 2-chloroethyl vinyl ether, 1,1-dichloroethylene, trans-1,2-dichloroethylene, and hexane were outside control limits.

The semi-volatile MS %R and relative percent difference (RPD) were outside control limits for benzidine.

The MSD %R for TPH-GRO was outside QC limits.

The MS/MSD %Rs for Aroclor 1016 were outside QC limits.

All compounds were cross referenced with the LCS data, which was either in control or the compounds were not detected in the sample(s) (with the exception of hexane, which was qualified in sample SWMU122-MW09); therefore no further qualification of the sample data was required.

The MS and/or MSD %Rs for calcium, potassium, magnesium, and sodium were outside QC limits. Control limits were not applicable for calcium, magnesium, and sodium due to the sample exceeding the spiked concentration by a factor of four or more. Since the recovery of potassium was greater than (>) 125%; it was qualified as estimated, "J", in both samples.

Project Specific Quality Assurance/Quality Control

The RPD for the duplicate of arsenic and thallium were outside QC limits. Due to the low duplicate and sample concentration, the RPD was acceptable for thallium. Arsenic was qualified as estimated, "J", in both samples.

The serial dilution for aluminum, arsenic, calcium, cobalt, selenium, thallium, and zinc were above QC limits. Calcium yielded a sample concentration >50x the method detection limit (MDL), in both samples, and was qualified as estimated "J".

Compound Quantitation and Reporting Limits

To quantify the data, a dilution was required for the analysis of sodium in both samples along with the volatiles analysis, including TPH-GRO, for sample SWMU122-MW09. Elevated reporting limits were reported.

Overall Assessment of Data

Overall, the data is suitable for the intended data usage. All analyses were performed, and the data met the required QC criteria except where noted. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	*Qualifier
SWMU122-MW05	TDS Arsenic Potassium Calcium	6,210 J 6.6 J 38,100 J 454,000 J
SWMU122-MW09	TDS Hexane Arsenic Potassium Calcium	8,130 J 3.0 J 19.8 J 22,100 J 443,000 J

* VOCs/metals are in micrograms per liter (µg/L), TDS is in milligrams per liter (mg/L)

FINAL
RCRA FACILITY INVESTIGATION REPORT
SWMUs 122 AND 123
HOLLOMAN AIR FORCE BASE, NEW MEXICO

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FINAL
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SWMUs 122 AND 123
HOLLOMAN AIR FORCE BASE, NEW MEXICO

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D Monitoring Well Development Forms
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LIST OF ACRONYMS

AAF	Army Air Field
amsl	Above mean sea level
bgs	Below ground surface
Bhate	Bhate Environmental Associates, Inc.
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
°C	Degrees Celsius
CES/CEAN	Civil Engineering Squadron/Civil Engineering Asset Management Flight
CLSM	Controlled Low-Strength Material
COPC	Chemical of potential concern
cm	Centimeters
cm^3/cm^3	Cubic centimeters per cubic centimeter
DPT	Direct push technology
DQO	Data quality objectives
DRMO	Defense Reutilization Management Office
DRO	Diesel Range Organics
EM	Exposure Model
ERP	Environmental Restoration Program
°F	Degrees Fahrenheit
ft	Feet or foot
ft/ft	Feet per foot
FWENC	Foster Wheeler Environmental Corporation
g/cm^3	Grams per cubic centimeter
g/g	Grams per gram
GPS	Global Positioning System
GRO	Gasoline Range Organics
GTI	Groundwater Technology Government Services, Inc.
H	Henry's Law Constant
HAFB	Holloman Air Force Base
HHMSSL	Human Health Medium Specific Screening Level
HI	Hazard Index
HWB	Hazardous Waste Bureau
IDW	Investigation Derived Waste
IELCR	Individual Excess Lifetime Cancer Risk
J	Data Qualifier (denotes an estimated value)
J&E	Johnson & Ettinger
LCS	Laboratory Control Sample
MCL	Maximum Contaminant Level
MDL	Method detection limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter

NAD	North American Datum
NAPL	Non-Aqueous Phase Liquid
NFA	No Further Action
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
NMWRRS	New Mexico Water Rights Reporting System
NOD	Notice of Deficiency
ORO	Oil Range Organics
OVM	Organic Vapor Meter
PCB	Polychlorinated Biphenyl
PCS	Petroleum contaminated soil
pH	Potential of Hydrogen (measurement of acidity)
PID	Photoionization detector
POL	Petroleum, Oil, and Lubricants
PRG	Preliminary Remediation Goal
PVC	Polyvinyl chloride
QA/QC	Quality Assurance/Quality Control
%R	Percent Recovery
RA	Risk Assessment
RAGS	Risk Assessment Guidance for Superfund
RBC	Risk Based Concentration
RCRA	Resource Conservation Recovery Act
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RPD	Relative Percent Difference
RSL	Regional Screening Level
SOP	Standard Operating Procedure
SSLs	Soil Screening Levels
SVOC	Semi-volatile organic compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TCEQ	Texas Commission on Environmental Quality
TDS	Total dissolved solids
TPH	Total petroleum hydrocarbons
TRPH	Total recoverable petroleum hydrocarbons
UJ	Data Qualifier (denotes an estimated non-detected value)
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTL	Upper Tolerance Limit
VCM	Voluntary Corrective Measures
VOC	Volatile organic compound
WRCC	Western Regional Climate Center

1 INTRODUCTION

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report was prepared for the Holloman Air Force Base (HAFB) 49th Civil Engineering Squadron/Environmental Asset Management Flight (CES/CEAN) by NationView, LLC under U.S. Army Corps of Engineers (USACE), Albuquerque District Contract W912PL-07-D-0050, Delivery Order No. DM01. This report presents the results of the RFI conducted by NationView between July 7 and July 15, 2009, at Solid Waste Management (SWMU) Unit 122 (Building 702 Waste Oil Tank) and SWMU 123 (Building 704 Waste Oil Tank), HAFB, New Mexico. SWMU 122 and SWMU 123 are listed in Table A of the HAFB Hazardous Waste Facility Permit (No. NM6572124422), Appendix 4-A (New Mexico Environment Department [NMED], 2005), which requires the site to be investigated and undergo corrective action if warranted.

All of the field work performed during this RFI was conducted in accordance with the approved *Final RCRA Facility Investigation Work Plan, SWMUs 122 and 123, Holloman AFB, New Mexico* (NationView, 2009) and the RFI requirements set forth in the HAFB Hazardous Waste Facility Permit No. NM6572124422, Appendix 4-B (NMED, 2004a). The Final SWMU 122 and 123 Work Plan (NationView, 2009) was revised to address deficiencies outlined by the NMED in correspondence dated May 22 and October 7, 2009 and was approved by the NMED on February 19, 2010. NMED correspondence and the applicable responses to NMED comments are provided in Attachment A. The preparation and submittal of this RFI Report was substantially delayed at the request of the NMED until the background levels for naturally occurring constituents (e.g. metals) at HAFB could be finalized (NMED, 2011).

1.1 Project Objectives

The primary purpose of this RFI was to review available information and to collect additional soil and groundwater analytical data to fill data gaps in order to identify and characterize potential releases associated with the Building 702 and Building 704 waste oil tanks, SWMU 122 and 123, respectively.

The project objectives of the SWMU 122 and 123 RFI were to:

1. Identify potential releases to the subsurface soil and groundwater from the previously removed Building 702 Waste Oil Tank (SWMU 122).
2. Delineate the downgradient horizontal extent of Volatile Organic Compound (VOC) (benzene, toluene, ethylbenzene, and xylene [BTEX]) groundwater contamination from the previously removed Building 704 Waste Oil Tank (SWMU 123) that has been identified under the Petroleum, Oil, and Lubricants (POL) Washrack.
3. Collect sufficient analytical data to complete a site-specific risk assessment of the groundwater exposure pathways.

4. Collect the proper data to meet the data quality objectives (DQOs) to support closure of these two sites based on guidance from the NMED.

This document also describes the excavation and confirmation soil sampling activities for the Voluntary Corrective Measures (VCM) which was conducted at SWMU 123 by Bhate Environmental Associates (Bhate) between October 2005 and January 2006. Additionally, this document summarizes the previously known subsurface conditions including the extent of petroleum contaminated soil (PCS), and impacts to groundwater. During this process, required data were collected to support the closure of the sites based on guidance from the NMED. The ultimate objective is to achieve a No Further Action (NFA) Status under NFA Criterion 5 (Appendix 4-B HAFB Hazardous Waste Facility Permit No. NM6572124422), (NMED, 2004a) and obtain a Class III permit modification to remove these SWMUs from Table A of the HAFB Hazardous Waste Facility Permit. NFA Criterion 5 states:

> *"The site was characterized or remediated in accordance with applicable state and/or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use."*

This criterion was accomplished by removing all of the PCS that was located below the POL washrack and the POL washrack structure which are south and southeast of SWMU 123. A detailed description of the SWMU 123 PCS removal action (excavation and disposal/ treatment) along with confirmation sampling analytical results collected during the VCM are provided in Section 2.6.8 of this report.

1.2 Document Organization

This RCRA Facility Investigation Completion Report is organized according to the format suggested in Appendix 4-B of the RFI Report Requirements found in the HAFB RCRA Permit NM6572124422 (Appendix 4-B of the Permit) (NMED, 2004a). The document contains the following 10 sections:

- Section 1 – Introduction
- Section 2 – Site Background
- Section 3 – Environmental Setting
- Section 4 – Source Characterization
- Section 5 – Field Activities
- Section 6 – Laboratory Analysis and Data Validation Summary
- Section 7– Nature and Extent of Contamination
- Section 8 – Risk Based Evaluation
- Section 9 – Conclusions and Recommendations
- Section 10 – References

The tables and figures referenced throughout this RFI Report are included following the text (after Section 10). This report also includes the following attachments and appendices:

- Attachment A – NMED Correspondence
- Attachment B – Variance Form
- Appendix A – Historical Data from Previous Investigations
- Appendix B – Soil Boring Logs
- Appendix C – Monitoring Well Construction Diagrams
- Appendix D – Monitoring Well Development Forms
- Appendix E – Monitoring Well Sample Collection Forms
- Appendix F – Analytical Data Packages (Provided on Enclosed CD)
- Appendix G – Data Validation Reports

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2 SITE BACKGROUND

2.1 HAFB Facility Description and Operational History

HAFB is located in south central New Mexico, in the northwest central part of Otero County, approximately 75 miles north-northeast of El Paso, Texas (Figure 2-1). HAFB has a population of 6,000, and supports approximately 21,000 active-duty Air Force, National Guard, Air Force Reserve, retirees, civilians, and their family members. HAFB occupies approximately 59,600 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 is located approximately 7 miles east of the base and has a population of approximately 35,000.

HAFB was first established in 1942 as Alamogordo Army Air Field (AAF). From 1942 through 1945, Alamogordo AAF served as the training ground 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, conducting fighter aircraft training and operations. HAFB has also served as the German Air Force's Tactical Training Center since 1996.

2.2 SWMU 122 and 123 Site Description and Background

SWMUs 122 and 123 are located in an industrial area within the northeastern portion of the main base area (Figure 2-2). Specifically SWMUs 122 and 123 are located near the northwestern and northeastern corners of the POL Washrack (Figure 2-3) which is located within the fenced area of the POL Facility off Delaware Avenue. The two former underground waste oil tanks received oil and fuels removed from two underground oil/water separators which collected wash water from the POL Washrack. The two former oil/water separators (SWMUs 21 and 22) were also located along the north side of the POL Washrack (Figure 2-3). During the early 1990s the POL Washrack was renovated and the two waste oil tanks (SWMUs 122 and 123) and the associated oil/water separators (SWMUs 21 and 22) were removed and replaced with a new oil-water separator and waste oil tank also shown on Figure 2-3.

2.3 POL Washrack Activities and Waste Generation

Historically the POL Washrack (Building 703 Washrack) generated wash water from cleaning vehicles and equipment. The POL Washrack was equipped with two oil/water separators (SWMUs 21 and 22) which received the wash water containing oil, hydraulic fluid, fuels, and soil from cleaning heavy equipment. The waste oil skimmed from the wash water in the two underground oil/water separators was transferred by gravity to the two underground waste oil tanks (SWMUs 122 and 123) via a subsurface pipe. Prior to their removal, the tops of the oil/water separators were slightly below grade and covered with gravel. The waste oil tanks (approximately 5 feet [ft] long by 5 ft in diameter) were below grade and also covered with gravel. According to the RCRA Facility Assessment (A.T. Kearney, 1988) the waste oil tanks were not equipped with automatic fill controls or level monitoring devices. However, waste oil was routinely removed to prevent overfills. Figure 2-3 illustrates the proximity of the waste oil tanks and the oil/water separators that historically collected the wash water and fluid wastes from the POL Washrack.

2.4 Previously Identified Contamination

Previous investigations have identified a number of contaminants that have impacted the soil and groundwater from SWMU 123 including:

- Volatile organic compounds (benzene, toluene, ethylbenzene, xylenes);
- Semi-volatile organic compounds [SVOCs] (naphthalene and phenol), and;
- Total Petroleum Hydrocarbons [TPH] (gasoline and diesel range organics)

The nature and extent of soil contamination resulting from the historical petroleum hydrocarbon releases at SWMU 123 (former Building 704 Waste Oil Tank) has been previously defined. In addition, PCS remedial actions (excavations) conducted in 1995 (by EBASCO), 1997 (by Foster Wheeler Environmental Corporation [FWENC]), and 2005 (by Bhate) removed all of the petroleum contaminated soil associated with SWMU 123. Five groundwater monitoring wells were previously installed at SWMU 123 (Bhate, 2004). Although the nature of the groundwater contamination at the site has been characterized, the horizontal extent of groundwater contamination was not defined. Furthermore, previous subsurface soil investigations were not conducted at SWMU 122 (former Building 702 Waste Oil Tank), therefore the nature and extent of soil contamination resulting from any potential releases from this waste oil tank (SWMU 122) was unknown.

2.5 Applicable Screening Criteria

Analytical data obtained from previous investigations and the data collected during this RFI will be evaluated against the applicable regulatory screening criteria that are specified in Appendix 4-F *Action Levels and Cleanup Levels* of the Holloman AFB Hazardous Waste Permit No. NM6572124422 (NMED, 2004b). Soil and groundwater

data evaluation will consist of a direct comparison to the applicable action level screening criteria. The applicable screening criteria are presented on the RFI Report analytical data summary tables for the analytes and media of concern. The following sections present the regulatory criteria that were used to evaluate the analytical data generated from this investigation.

2.5.1 Soils

2.5.1.1 VOCs, SVOCs, PCBs, and TAL Metals

The residential Soil Screening Levels (SSLs) established in NMED's *Technical Background Document for Development of Soil Screening Levels* (NMED, 2009) were used as the primary action levels for VOCs, SVOCs, polychlorinated biphenyls (PCBs), and target analyte list (TAL) metals. As per the HAFB Permit, Appendix 4-F V.1 (NMED, 2004b) if an NMED soil cleanup level has not been established for a particular chemical of potential concern (COPC) (e.g. 2-methylnapthalene) that constituent will be compared to the U.S. Environmental Protection Agency (USEPA) Region 6 *Human Health Medium Specific Screening Level* (HHMSSL). However, under an Interagency Agreement as an update of the USEPA Region 3 Risk Based Concentration (RBC) Table, Region 6 HHMSSL Table and the Region 9 Preliminary Remediation Goal (PRG) Table the Region 6 HHMSSLs have been combined into the Regional Screening Level (RSL) Table (USEPA, 2011). Additionally, all detected TAL metals were compared to their respective NMED approved HAFB Background Levels (NMED, 2011).

2.5.1.2 Total Petroleum Hydrocarbons

The action levels for TPH are established in the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006). Based on the analysis of the non-aqueous phase liquid (NAPL) sample collected from monitoring well SWMU123-MW1 in September 2004 (Bhate, 2004) the TPH screening guideline (residential direct exposure), for diesel #2/crankcase oil (880 milligrams per kilogram [mg/kg]) (Table 2b, NMED, 2006) was used as the action level for total TPH concentrations (combined gasoline range organics [GRO], diesel range organics [DRO], and oil range organics [ORO]).

2.5.2 Groundwater

2.5.2.1 VOCs, SVOCs, PCBs, and TAL Metals

There are two applicable standards for groundwater: New Mexico Water Quality Control Commission (NMWQCC) groundwater standards for contaminants (New Mexico Administrative Code [NMAC] 20.6.2.3103) and the USEPA's *National Priority Drinking Water Regulations* (USEPA, 2009) Maximum Contaminant Levels (MCLs). The lower of the two standards was used as action levels for VOCs, SVOCs, PCBs, and TAL metals in groundwater. Additionally, all detected TAL metals were compared to the NMED approved HAFB Background Levels (NMED, 2011).

2.5.2.2 Total Petroleum Hydrocarbons

The action levels for TPH are established in the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006). The NMED TPH screening guideline for diesel #2/crankcase oil (30.4 milligrams per liter [mg/L]) is the action level that was compared to total TPH concentrations (GRO, DRO, and ORO) detected in groundwater (Table 2b, NMED, 2006).

2.5.2.3 Total Dissolved Solids

There are two applicable standards for total dissolved solids (TDS) detected in groundwater: NMWQCC groundwater standards for contaminants (NMAC 20.6.2.3103) and the USEPA's *National Priority Drinking Water Regulations* Secondary MCLs (USEPA, 2009). The lower of the two standards was used as the action level for TDS.

2.6 Summary of Past Investigations and Remedial Actions

This section presents an overview of the previous investigations and remedial actions conducted at SWMUs 122 and 123. Since 1988 these SWMUs have been the subject of five environmental investigations and three PCS remedial (removal) actions. This section provides a historical overview and chronology of the previous investigations and removal actions that were conducted from 1988 through 2006 The chronology of previous investigations at SWMUs 122 and 123 is based on information provided in the reports referenced below. Analytical results summary tables, figures depicting sampling locations, and soil boring logs for these previous investigations and PCS removal actions are included in Appendix A of this report.

- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report*, 1988, A.T. Kearney, Inc and DPRA, Inc.
- *Phase I RCRA Facility Investigation Report, Table 2 Solid Waste Management Units,* 1994, Radian Corporation.
- *Closure Report for Remediation of POL – Contaminated Sites and Oil/Water Separator Removals, Holloman Air Force Base, New Mexico, July – November, 1995,* 1995, EBASCO Services, Inc., and Groundwater Technology Government Services, Inc.
- *Additional Characterization of POL-Contaminated Sites SWMU-3, SWMU-8, SWMU-36, SWMU-123 and OT-44, Holloman Air Force Base, New Mexico,* 1996, Groundwater Technology Government Services, Inc.
- *Final Closure Report Addendum for Phase II Remediation of POL-Contaminated Sites and Oil/Water Separator and Waste Oil Tank Removals, Holloman Air Force Base, New Mexico,* 1997, Foster Wheeler Environmental Corporation.
- *Results of Additional Soil Sampling for Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico,* 1999, Foster Wheeler Environmental Corporation.

- *Site Investigation Report SWMU 123, Holloman Air Force Base, New Mexico,* 2004, Bhate Environmental Associates, Inc.
- *Voluntary Corrective Measures Work Plan SWMU 123, Holloman Air Force Base, New Mexico,* 2005, Bhate Environmental Associates, Inc.

Each of these actions is described below.

2.6.1 RCRA Facility Assessment Preliminary Review Report

The RCRA Facility Assessment Report (A.T. Kearney, 1988) identified the Building 702 and Building 704 Waste Oil Tanks as SWMUs 122 and 123, respectively. These underground storage tanks were used to collect oil and wastewater from the Building 702 and Building 704 Oil/Water Separators (SWMUs 21 and 22) and were located along northern side of the Building 703 Washrack concrete pad (SWMU 89). The waste oil tanks were below grade and covered with gravel. The tanks were approximately 5 ft long and 5 ft in diameter and the depth to the base of the tanks was estimated at 6.5 ft below ground surface (bgs).

Wash water, waste oil, and fuels from the adjacent wash rack were routed to the oil/water separators for processing. The waste oil was skimmed from the water in the oil/water separators was transferred by gravity to the waste oil tanks via a subsurface pipe. The tanks were not equipped with automatic fill controls or level monitoring devices. Liquid level inspections were routinely conducted by HAFB personnel and the waste was removed on regular intervals and transferred to the Defense Reutilization Management Office (DRMO) Waste Storage Area. The RCRA Facility Assessment Report concluded that the potential for release to soil and groundwater was unknown since the age, materials of construction, and integrity of the tanks were not known. The two waste oil tanks (SWMUs 122 and 123) and the two oil/water separators (SWMUs 21 and 22) were subsequently removed when the Building 703 Washrack was renovated in the early 1990s. The descriptions of SWMUs 122 and 123 from the RCRA Facility Assessment Report (A.T. Kearney, 1988) are provided in Appendix A-1.

2.6.2 Phase I RCRA Facility Investigation Report

The initial Phase I RFI for SWMUs 123, 21, and 22 was performed by Radian in 1993 (Radian, 1994) to evaluate potential soil contamination at each of these sites. For the Phase I RFI, six soil borings were drilled within the potentially affected areas immediately surrounding the three SWMUs. Figure 4.4-1 in Appendix A-2 shows the locations of the six soil borings that were drilled at these SWMUs. Split spoon samples were collected every 2 ft to approximately 12 ft bgs. Each interval was logged and screened with an organic vapor meter (OVM). Boring logs with screening results are provided in Appendix A-2. Chemical analytical samples were collected from the interval at the base of the tanks (6.5 – 8.5 ft bgs), and approximately 4 ft below the base of the tanks (10.5 – 12.5 ft bgs). Twelve soil samples (two per borehole) were collected and analyzed at an offsite laboratory for VOCs, Total Recoverable Petroleum Hydrocarbons

(TRPH), and metals. Six samples were also analyzed for SVOCs (SWMU 123) because they were visibly contaminated.

The analytical results indicated that detected constituents for the six soil samples collected at SWMUs 21 and 22 (Building 702 and Building 704 Oil/Water Separators) were all below the current NMED Residential SSLs (NMED, 2009) and TPH Screening Guidelines (NMED, 2006). However, the analytical results from SWMU 123 soil samples indicated that two VOCs and TRPH were above the current NMED SSLs and the TPH Screening Guidelines. One sample from borehole 123-B01 had concentrations of two VOCs (benzene and ethylbenzene) and TRPH above NMED action levels. The maximum VOC concentrations were detected in sample 123-B01-02-01 collected from 8 – 10 ft bgs where benzene was reported at 54,000 micrograms per kilogram (µg/kg) and ethylbenzene at 229,000 µg/kg. The current NMED SSLs for benzene and ethylbenzene are 15.5 and 69.7 mg/kg, respectively.

TRPH was detected in three soil samples (two from 123-B01 and one from 123-B02) above the NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg. The highest TRPH concentration was also detected in sample 123-B01-02-01 at 4,510 mg/kg. All detected SVOCs from the six SWMU 123 soil samples were each below their respective NMED SSLs. Arsenic was detected slightly above the SSL (3.9 mg/kg) in soil sample 022-B02-01-01 at a concentration of 4.26 mg/kg. With the exception of lead and selenium all other metals were detected below their respective SSLs and the NMED approved HAFB Background Levels. Selenium was detected in nine soil samples with concentrations ranging from 0.38 mg/kg to 4.64 mg/kg and lead was detected in 12 soil samples with concentrations ranging from 0.265 mg/kg to 76.8 mg/kg. Although some of these detections are above the NMED approved HAFB background concentrations (1.4 mg/kg for selenium and 10.9 mg/kg for lead) they are well below the NMED SSLs for selenium (391 mg/kg) and lead (400 mg/kg). Tables 4.4-1, 4.4-2, and 4.4-3 in Appendix A-2 summarize the Phase I results from SWMUs 21, 22, and 123, respectively. Soil boring locations and analytical results from the Phase I RFI which exceeded current NMED SSLs, USEPA RSLs (USEPA, 2011), and/or NMED TPH screening guidelines are presented on Figure 2-4.

The Phase I RCRA Facility Investigation Report (Radian, 1994) recommended no further action for SWMUs 21 and 22 and remediation of TRPH-contaminated soil and removal of the waste oil tank for SWMU 123. Recommended approaches for remediation included in-situ bioremediation or excavation and disposal of the TRPH-contaminated soil.

2.6.3 Closure Report for Remediation of POL-Contaminated Sites

The initial SWMU 123 remedial (removal) action was conducted by EBASCO Services, Inc., and took place during August 1995 (Ebasco, 1995). The Building 704 Waste Oil Tank (SWMU 123) was not found in the excavation (16 ft by 12 ft by 7 ft deep), and it was believed that the tank had been previously removed when the Building 703 POL washrack was renovated in the early 1990s. Fifty cubic yards (67.5 tons) of TRPH-

contaminated soil was removed at this time. Five native soil confirmation samples were collected from the excavation corners (SWMU-123-1-7 through SWMU-123-4-7), and one from the center of the excavation (SWMU-123-5-7). The sample locations are illustrated on Figure 13-1 in Appendix A-3 of this Report.

TRPH concentrations above the current TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg were detected in two of the five samples. TRPH was detected in SWMU-123-1-7 (southeast corner) and SWMU-123-2-7 (southwest corner) at 7,400 and 4,600 mg/kg respectively. The laboratory analytical results also indicated detections of all four BTEX constituents (benzene, toluene, ethylbenzene, and xylene) in samples SWMU-123-1-7 and SWMU-123-2-7. Benzene and ethylbenzene were detected above their current NMED SSLs of 15.5 and 69.7 mg/kg (NMED, 2009), in these two soil samples. The maximum concentrations of benzene (39 mg/kg) and ethylbenzene (81 mg/kg) were detected in samples SWMU-123-1-7 and SWMU-123-2-7, respectively. No BTEX compounds were detected above the laboratory quantitation limits in the other three samples. The analytical results are summarized in Table 13-2 in Appendix A-3 of this Report.

The excavated contaminated soil was stockpiled and sampled for offsite disposal. Based on the analytical results from the stockpile samples (see Table 13-3 in Appendix A-3of this Report) the 50-cubic yards of contaminated soil was transported offsite as non-hazardous waste to the Rhino Environmental Services, Inc., landfarm facility located north of Newman, New Mexico for disposal and treatment. Copies of the waste manifests and weight certificates/receipts are also included in Appendix A-3 of this Report.

Due to the elevated TRPH detected in two excavation sidewall samples, the Closure Report (EBASCO, 1995) recommended further delineation and remediation of the remaining PCS (detected in samples SWMU-123-1-7 and SWMU-123-2-7). Additional investigation activities were planned for the site in 1996.

2.6.4 Additional Characterization of POL Contaminated Sites

Additional characterization to delineate the extent of subsurface soil in excess of 1,000 mg/kg (the historical HAFB TPH action level) at SWMU 123 was conducted by Groundwater Technology Government Services, Inc. (GTI), in February 1996. Three soil borings (SWMU-123-DP-1, SWMU-123-DP-3, and SWMU-123-DP-4) were drilled and sampled at SWMU 123 (see Figure 5 in Appendix A-4 of this Report) during this sampling event. Each borehole was advanced to 14 ft bgs and sampled continuously and field screened for VOCs with a photoionization detector (PID). Two samples from each boring were analyzed for TRPH, TPH-GRO, TPH-DRO, and BTEX constituents. Boring logs with PID screening results are also provided in Appendix A-4 of this Report.

The analytical results are summarized in Table 5 in Appendix A-4 of this Report. TRPH, TPH-GRO, TPH-DRO, and BTEX were not detected in the samples collected from the borehole located north (SWMU-123-DP-3) and west (SWMU-123-DP-1) of the former

Building 704 Waste Oil Tank (SWMU 123). However, the soil sample collected from 9 to 10 ft bgs in boring SWMU-123-DP-4 located east of the Washrack did contain TPH-GRO at 202 mg/kg, TPH-DRO at 19 mg/kg, TRPH at 114 mg/kg, ethylbenzene at 1.3 mg/kg, and xylenes at 2.09 mg/kg. Each of these detections (including combined TRPH concentrations) was well below their respective NMED and USEPA action levels. The GTI letter report concluded that the results from boring DP-4 indicated that petroleum hydrocarbon contamination was present beneath the POL Washrack concrete slab.

2.6.5 Final Closure Report Addendum for Phase II Remediation of POL Contaminated Sites

Two closure samples (SWMU-123-1-7 and SWMU-123-2-7) from the initial PCS removal action at SWMU 123 conducted by EBASCO Services in 1995 exceeded the applicable TRPH screening criteria along the southern side of the excavation. Based on an agreement between NMED and HAFB, soil with TRPH concentrations exceeding 1,000 mg/kg that extended under large structures would not require remediation if this soil posed no potential health risk. As a result, additional excavation activities were planned to remove all TRPH-contaminated soil exceeding 1,000 mg/kg which did not extend under the concrete POL Washrack pad.

In March 1997, FWENC resumed excavation activities and removed an additional 132.5 cubic yards (178.9 tons) of PCS from around the initial SWMU 123 excavation (FWENC, 1997). Representative samples of in-place and stockpiled soil were also collected during the second remedial action. The five excavation sidewall and floor samples were analyzed for TRPH, VOCs, SVOCs, and metals. Table 5-1 in Appendix A-5 of this Report summarizes the analytical results for the site closure and stockpile samples and the excavation confirmation sample locations are presented in Figure 5-1 in Appendix A-5. The analytical results for four of the samples did not exceed current NMED SSLs (NMED, 2009). However, the sample collected immediately adjacent to the POL Washrack (SWMU-123-01-09) had a TRPH concentration of 4,100 mg/kg which is above the current NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg (NMED, 2006). In addition, benzene (33 mg/kg) and ethylbenzene (320 mg/kg) were also detected above their current SSLs (15.5 and 69.7 mg/kg respectively) in sidewall sample SWMU-123-01-09.

The excavated contaminated soil was stockpiled and sampled for offsite disposal. Based on the analytical results from the stockpile samples (shown in Table 5-1 in Appendix A-5 of this Report) the 132.5-cubic yards of PCS from the second excavation was transported offsite as non-hazardous waste to the Rhino Environmental Services, Inc., landfarm facility located north of Newman, New Mexico for disposal and treatment. Copies of the waste manifests and weight certificates/receipts are also included in Appendix A-5 of this Report.

Due to the closure sample adjacent to the POL Washrack (SWMU-123-01-09) the Phase II Closure Report (FWENC, 1997) recommended a conditional NFA. The

condition of the NFA was the remediation of vadose zone soil extending under the POL Washrack over 1,000 mg/kg TRPH and 25 mg/kg benzene.

2.6.6 Additional Soil Sampling for Remediation of POL Contaminated SWMU 123

The NMED requested further investigation of soil contamination underneath the concrete washrack pad before considering the site for NFA. The primary purpose of the additional investigation was to determine the extent of TRPH contamination detected in sample SMMU123-01-09 (which was 4,100 mg/kg) during the SWMU Phase II Closure investigation (FWENC, 1997). Therefore in January 1999, FWENC cored the concrete pad and sampled six hand auger boreholes (SWMU-SB-A, -B, -C, -E, -I, and -J). Soil boring locations are shown on Figure 4-1 in Appendix A-6 of this Report. Initially nine soil borings were planned, however three boreholes (SWMU-SB-D, -F, and -H) could not be sampled as they were located over thick concrete footers in the concrete pad. A total of 13 soil samples collected from 2 to 9 ft bgs were sent to an offsite laboratory and analyzed for TRPH and BTEX.

Six samples had concentrations of TRPH above the NMED TPH screening guideline for diesel #2/crankcase oil (880 mg/kg) (NMED, 2006) with concentrations ranging from 1,825 mg/kg to 7,400 mg/kg. One soil sample (SWMU123-SB-C-9) had a concentration of ethylbenzene (110 mg/kg) which is above the NMED SSL (69.7 mg/kg). All other detections of benzene, toluene, ethylbenzene, and total xylene were below their current NMED SSLs (NMED, 2009). Table 6-1 in Appendix A-6 of this Report presents a summary of the analytical results. Soil boring locations and analytical results from the SWMU 123 Additional Soil Sampling performed by FWENC in 1999 which exceeded current NMED SSLs, USEPA RSLs (USEPA, 2011), and/or NMED TPH screening guidelines are presented on Figure 2-5.

The Letter Report *Results of Additional Soil Sampling for the Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico* (FWENC, 1999) concluded that the remaining TRPH-contaminated soil at the site was adequately covered by an 8-inch thick reinforced concrete pad (washrack) which served as an effective capping mechanism for the TRPH contaminated soil. After reviewing the referenced Letter Report the NMED issued a Notice of Deficiency (NOD) to HAFB on August 17, 2001, requiring additional information prior to making a final determination for NFA at SWMU 123. Additional information required by NMED included a valid risk assessment, additional analytical soil sampling (TPH-GRO, -DRO, -ORO, RCRA metals, and PCBs) and the installation and sampling of groundwater monitoring wells. The NMED NOD letter (HWB-HAFB-01-007) is included in Attachment A of this Report.

2.6.7 SWMU 123 Site Investigation

In response to the NMED NOD (HWB-HAFB-01-007) dated August 17, 2001, Bhate Environmental Associates, Inc. (Bhate) was subcontracted to address the NMED recommendations outlined in the NOD letter. The primary objective of this investigation

was to determine the vertical and lateral extent of PCS and to install a monitoring well network to evaluate groundwater quality. The field work for the SWMU 123 Site Investigation was conducted in accordance with the *Work Pan for Additional Soil Borings and Monitoring Well Installations Solid Waste Management Unit 123* (Bhate, 2003a) which was approved by the NMED. The NMED Notice of Approval letter (HWB-HAFB-03-006) for this Work Plan dated February 10, 2004, is also included in Attachment A of this report. The following information was obtained from the *Site Investigation Report SWMU 123, Holloman Air Force Base, New Mexico* (Bhate, 2004).

A total of five solid stem auger soil borings (SB-1 through SB-5) and nine direct push technology (DPT) locations (DP-01 through DP-09) were advanced at SWMU 123 in April 2004. The five soil borings were converted into 2-inch flush mount groundwater monitoring wells (MW-1 through MW-5). The locations of the DPT soil borings and the solid stem auger soil borings converted into monitoring wells are illustrated on Figure 4-1 in Appendix A-7 of this Report. A total of 31 soil samples from 14 soil borings (two per borehole including three duplicates) were submitted to an offsite laboratory for analysis. Six groundwater samples (including one duplicate) and a round of water levels were collected from the five monitoring wells. Additionally four wells (MW-2 through MW-5) were resampled on September 28, 2004, to determine if site conditions had changed after the initial sampling event performed in April. Drilling logs and monitoring well construction diagrams for this investigation are included in Appendix A-7 of this Report.

Table 5-1 in Appendix A-7 of this Report presents the April 2004 groundwater elevation data collected from the five monitoring wells. A potentiometric surface map was prepared using the data from Table 5-1 (see Figure 5-1 in Appendix A-7 of this Report). Groundwater flows to the southeast towards Dillard's Draw with a relatively flat hydraulic gradient (0.01 feet per foot [ft/ft]). During routine well gauging activities performed on September 14, 2004, approximately 1.41 ft of free phase liquid was measured in monitoring well MW-1. The NMED Hazardous Waste Bureau (HWB) was immediately notified and a copy of the Memorandum *Notification of Free Phase Liquid at Solid Waste Management Unit (SWMU) 123 - Bldg 704 Waste Oil Tank Site* is included in Attachment A of this report. A sample of the NAPL was collected on September 22, 2004, and the analytical results indicated that the NAPL contained a mixture of gasoline, jet fuel (or naphtha), and a mid-distillate (kerosene or diesel #1) (see letter from Zymax Forensics in Appendix A-7 of this report).

From September 22 to 27, 2004, periodic bailing of MW-1 reduced the thickness of free product to 0.14 ft. After the initial free product removal response, the well was bailed on a weekly basis to remove NAPL. A summary of the free product measurements made during the removal actions is presented in Table 5-2 in Appendix A-7 of this Report.

2.6.7.1 Groundwater Sampling Results

Groundwater samples were analyzed for TDS, VOCs, SVOCs, TPH (-GRO, -DRO, -ORO), and RCRA metals. TDS concentrations (shown in Table 5-3 of Appendix A-7 of this Report) ranged from 3,010 mg/L in MW-1 to a high of 6,050 mg/L in MW-5. These

abnormally low TDS values are likely attributable to localized anthropogenic impacts such as leakage from a water supply line and runoff from the POL Washrack.

Table 5-4 in Appendix A-7 of this Report presents a summary of the analytical results (VOCs, SVOCs, TPH, and RCRA metals) for both rounds (May and September 2004) of groundwater sampling data. Due to the presence of free product, the May 2004 groundwater sample from MW-1 contained elevated concentrations of benzene (2,520 micrograms per liter [µg/L]), ethylbenzene (1,670 µg/L), toluene (7,490 µg/L), and total xylenes (2,920 µg/L) above the NMWQCC standards (NMAC 20.6.2.3103). The concentrations of benzene, ethylbenzene, and toluene were also above their respective current USEPA MCLs (USEPA, 2009). In addition to BTEX, MW-1 also contained concentrations of naphthalene, n-propylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene above their respective USEPA Region 6 HHMSSLs for tap water (USEPA, 1996) (Note: As presented in Table 5-4 (Appendix A-7) the comparison of groundwater data to the 1996 Region 6 tap water screening levels was a unique comparison that was only presented in *Site Investigation Report SWMU 123* [Bhate, 2004]. Comparison of groundwater data with the Region 6 screening levels for tap water is not a requirement within Appendix 4-F *Action Levels and Cleanup Levels* of the HAFB Hazardous Waste Facility Permit No NM6572124422 [NMED, 2004b]).

With the exception of benzene (1,080 µg/L) detected in monitoring well MW-2, all other VOCs were below their respective NMWQCC and USEPA MCL regulations during the first groundwater sampling event. The NMWQCC and USEPA MCL drinking water standards for benzene are 10 µg/L and 5 µg/L, respectively. Other VOCs detected in the downgradient well MW-2 during the first round included ethylbenzene (337 µg/L) and total xylenes (136 µg/L). The MW-2 groundwater sample collected during the second round had higher concentrations of benzene (1,340 µg/L), ethylbenzene (416 µg/L), and toluene (10J µg/L); while total xylenes (125 µg/L) slightly decreased. VOCs were not detected in monitoring well MW-3 during the first round, however low concentrations of benzene (3.2 µg/L), and ethylbenzene (21 µg/L) were detected in the sample collected during the second round. VOCs were not detected in upgradient monitoring wells MW-4 or MW-5 during either sampling event. An isocontour map depicting the distribution of BTEX compounds in the groundwater is shown on Figure 5-3 in Appendix A-7 of this Report.

The May 2004 groundwater sample collected from MW-1 was the only groundwater sample to have detectable concentrations of SVOCs. Phenol (34 µg/L) was the only SVOC detected above the NMWQCC standard of 5 µg/L. In addition, naphthalene was detected (76 µg/L) above the USEPA Region 6 action level of 6 µg/L. SVOCs were not detected in groundwater samples collected from monitoring wells MW-2 through MW-5 during either sampling event.

Detectable amounts of metals included arsenic, barium, chromium, cobalt, copper, lead, molybdenum, nickel, selenium, silver, vanadium, and zinc. Arsenic and selenium were the only metals detected above the EPA MCL standards of 0.01 mg/L and 0.05 mg/L respectively, during the May 2004 sampling event. Arsenic was detected in monitoring

wells MW-1 through MW-5 with concentrations ranging from 0.014 mg/L to 0.078 mg/L. Selenium was detected in monitoring wells MW-2 through MW-5 with concentrations ranging from 0.161 mg/L (MW-3) to 0.261 mg/L (MW-5). Arsenic was also detected above the MCL in four wells (MW-2 through MW-5) during the September 2004 sampling event with concentrations ranging from 0.017 mg/L to 0.068 mg/L. However, selenium was not detected in any of the groundwater samples collected during the second round. The metal samples were not filtered in the field (or laboratory) which may explain the variation of the selenium data. In addition, several metals (barium, chromium, copper, nickel, and zinc) were detected above the NMED approved unfiltered (total) background levels (Table 2, NMED, 2011) during both sampling events. Groundwater sampling locations and analytical results from the sampling performed by Bhate in May and September of 2004 which exceeded current NMWQCC standards, USEPA MCLs, or the 1996 USEPA Region 6 HHMSSLs (for tap water) are presented on Figure 2-6.

2.6.7.2 Soil Sampling Results

Soil samples were analyzed for VOCs, SVOCs, TPH (-GRO, -DRO, -ORO), RCRA metals, and PCBs. Table 5-5 in Appendix A-7 presents the analytical results for soil samples collected from the boreholes converted into monitoring wells and Table 5-6 in Appendix A-7 presents the analytical results for the DPT soil sampling locations.

The two samples (SB01-10 and SB01-12) collected from soil boring SB01 exhibited concentrations of benzene and ethylbenzene which exceeded the current NMED residential SSL (NMED, 2009). The maximum concentrations of benzene (26.9 mg/kg) and ethylbenzene (98.1 mg/kg) were detected in sample SB01-10 (10 to 11 ft bgs). The current NMED SSLs for benzene and ethylbenzene are 15.5 mg/kg and 69.6 mg/kg respectively. All other detected VOCs were below their respective SSLs and RSLs (USEPA, 2011). Three SVOCs were detected in the soil samples: 2-methylnaphthalene, naphthalene, and diethylphthalate. None of the SVOCs exceeded their applicable NMED SSLs or RSLs. Seven soil sampling locations contained detectable TPH concentrations: SB01, DP02, DP03, DP04, DP05, DP06, and DP08. Of these locations, the detectable concentrations for total TPH ranged from a low of 20.5 mg/kg to a high of 3,940 mg/kg. Locations SB01 and DP04 were the only boreholes which had total TPH (GRO, DRO, and ORO) concentrations that exceeded the current NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg (NMED, 2006).

Each of the soil boring and DPT locations contained a detection of at least one RCRA metal. With the exception of four detections of arsenic, all of the metals were detected below their respective NMED SSLs and USEPA RSLs. Arsenic was detected in four samples collected from soil borings DP06 and DP09 above the current NMED SSL (3.9 mg/kg). The arsenic concentrations in these samples ranged from 4.27 to 4.95 mg/kg. In addition, selenium was the only metal detected above the NMED approved background level (NMED, 2011) in eight samples.

Soil samples DP01-4 and DP01-11, collected from DPT borehole DP01 were also analyzed for PCBs. This location was adjacent to the excavation boundary of the previously removed Building 704 waste oil tank (SWMU 123). PCBs (Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260) were not detected in either sample. Soil boring locations and analytical results from the SWMU 123 Site Investigation performed by Bhate in 2004 which exceeded current NMED SSLs, USEPA RSLs, and/or NMED TPH screening guidelines are presented on Figure 2-7.

2.6.8 Voluntary Corrective Measures SWMU 123

As previously discussed in Section 2.6.6, FWENC cored through the concrete pad (SWMU 123 washrack) and sampled six hand auger boreholes in January 1999. The six soil samples collected from these boreholes had TPRH concentrations above the NMED TPH screening guideline of diesel #2/crankcase oil (880 mg/kg). In order to obtain site closure from the NMED, Bhate was retained by the USACE Omaha District to excavate the PCS which remained under the SWMU 123 concrete washrack pad. This section describes the PCS excavation, site restoration, and soil disposal activities which were conducted at SWMU 123 for the VCM from September 27, 2005, through February 7, 2006. This section also describes the confirmation soil sampling conducted along the sidewalls and bottom of the VCM excavation along with the results of the stockpile sampling.

PCS excavation and removal activities at SWMU 123 were conducted by Bhate between October 2005 and January 2006. The NMED HWB provided verbal approval of the *Voluntary Corrective Measures Work Plan SWMU 123, Holloman Air Force Base, New Mexico* (Bhate, 2005) on August 30, 2005. The telephone record of this phone call is included in Attachment A. The primary objective of the additional remedial action was to remove PCS to the south and east of the two prior removal actions conducted in 1995 and 1997. Complicating this excavation was the fact that the majority of the soil to be removed was beneath the reinforced concrete pad of the POL washrack and the POL washrack structure.

To determine the effectiveness of the VCM Remedial Action, confirmation soil samples were collected from the sidewalls and bottom of the excavation. Sidewall samples were collected at a frequency of 1 sample per 20 linear feet of sidewall. Soil samples were collected from the stockpiled soil (1 per 500 cubic yards) to determine the appropriate classification of the soil. These soil samples were submitted to Accutest Southeast in Orlando, Florida for offsite laboratory analysis.

Summary tables presenting the results of the excavation confirmation and stockpile soil sampling are presented in Tables 1 and 2, respectively in Appendix A-8 of this Report. The sample depth (feet) and location (sidewall or excavation floor bottom) for each sample is included as the last digit in the sample identification number. Excavation confirmation locations for the SWMU 123 VCM are shown on Figure 1 (Appendix A-8). Excavation confirmation samples and stockpile samples were analyzed by the offsite laboratory for the following:

- VOCs by USEPA Method 8260B
- SVOCs by USEPA Method 8270C
- TPH-DRO, -GRO, and -ORO by USEPA Method 8015/8015M

The VOC and SVOC results of the laboratory analyses were reviewed and compared to the current NMED SSLs (NMED, 2009) and USEPA RSLs (USEPA, 2011). TPH concentrations were compared to the current NMED TPH screening guidelines (NMED, 2006) for diesel #2/crankcase oil (880 mg/kg). A summary of the excavation, confirmation, and stockpile soil sampling activities which were conducted during the SWMU 123 VCM are presented in Sections 2.6.8.1 and 2.6.8.2. Section 2.6.8.3 describes the transportation and treatment of impacted/contaminated soil and Section 2.6.8.4 describes site restoration activities.

The excavation boundary of the 2005/2006 VCM PCS removal action is illustrated on Figure 1 in Appendix A-8 of this Report. This figure also presents the locations of confirmation soil samples which were collected from the sidewalls and the excavation bottom. The complete Accutest laboratory analytical data packages for the confirmation and stockpile soil sampling are also included in Appendix A-8 of this Report.

2.6.8.1 Excavation Confirmation Sampling Results

A total of 23 confirmation soil samples (including one duplicate) were taken from both the bottom of the excavation and from excavation sidewalls. The 19 sidewall samples (SWMU123-SW01 through SWMU123-SW16) were collected at 9 bgs along the perimeter of the excavation. The 4 bottom samples (SWMU123-BOTTOM1 through SWMU123-BOTTOM4) were collected at 13 feet bgs in the northern and central area of the excavation. The sample locations and excavation boundaries are presented on Figure 1 in Appendix A-8 of this Report.

Sidewall and bottom samples collected from the excavation all had VOC, SVOC, and TPH concentrations below the applicable screening criteria, indicating that all of the PCS above action levels had been removed. A summary table of the analytical data for the sidewall and bottom samples collected from October 2005 through January 2006 is presented in Table 1 in Appendix A-8 of this Report.

2.6.8.2 Soil Stockpile Sampling Results

Four samples were collected from stockpiled soil suspected of containing PCS. Stockpile samples were collected at a frequency of approximately 1 sample for every 500 cubic yards of stockpiled soil. All stockpile soil samples were analyzed for TPH, VOCs, and SVOCs. Stockpile samples SWMU123-PCS6-4,11 and SWMU123-PCS15 both exceeded the NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg (NMED, 2006). All VOC and SVOC concentrations were below the current NMED SSLs. Stockpiled soil which exceeded the NMED TPH screening guideline was transported to the HAFB FT-31 Landfarm for treatment. A summary table of the

analytical data for the stockpile soil samples collected in October and December 2005 is presented in Table 2 in Appendix A-8 of this Report.

2.6.8.3 PCS Transportation and Treatment

The approximate area of the final SWMU 123 excavation was 3,000 square feet (see Figure 1 in Appendix A-8 of this Report) with an average depth of 13.5 ft bgs. Approximately 1,770 cubic yards of soil was excavated, stockpiled, and sampled. Laboratory analysis determined that approximately 1,040 cubic yards of soil contained TPH at concentrations exceeding the NMED TPH screening guideline for diesel #2/crankcase oil of 880 mg/kg. Prior to excavating the remaining PCS, the concrete washrack pad was removed and transported to the HAFB Reuse Yard. The excavated PCS (1,040 cubic yards) was transported to the permitted HAFB FT-31 Landfarm for treatment and the clean overburden was used as backfill. The truck logs for the clean overburden and the PCS transported to the HAFB FT-31 Landfarm for treatment are also included in Appendix A-8.

2.6.8.4 Site Restoration

Fill consisting of clean overburden and treated soil transported from the HAFB FT-31 landfarm was used as backfill for the excavation prior to the replacement of the reinforced concrete washrack pad. Backfill material in areas below 6 feet bgs was placed in 24-inch lifts and compacted to at least 18 inches with a hydraulic plate compactor. From a depth of 6 feet bgs to approximately 3 feet bgs the excavation was backfilled in 9 inch lifts with compaction to at least 6 inches. The remaining fill required to reach the bottom of the existing foundation was placed as controlled low-strength material (CLSM) more commonly referred to as flowable fill. Upon completion of backfill activities a reinforced concrete pad was placed above flowable fill restoring the site to original condition.

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3 ENVIRONMENTAL SETTING

The following subsections present the environmental setting. This information was obtained primarily from the *Draft Final Remedial Investigation (RI) Report, Investigation, Study and Recommendation for 29 Waste Sites* (Radian, 1992), unless cited otherwise.

3.1 Physiography and Topography

HAFB 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 within the Tularosa Basin, which is part of a 170 mile long structural depression. The boarding 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. At its widest point, the basin is about 60 miles east to west and stretches approximately 150 miles north to south (Figure 2-1).

The Tularosa Basin is a closed basin that contains all of the surface flow within its boundaries. Surface runoff from the surrounding mountains has deposited alluvial fans on the interior of the plain. Around the base, the ground surface is undulating comprised of alluvial fan deposits, eolian dunes, and flat bottomed playas (pan shaped depressions carved by wind erosion). To the west of the Base lie the gypsum sand dune fields of the White Sands National Monument. A topographic map of the base is provided as Figure 3-1.

3.2 Surface Water and Hydrology

Within the boundaries of the Base, surface water runoff is controlled by several arroyos which trend to the southwest (Figure 3-2). The nearest inflow of surface waters to the Base comes from the Lost River, located in the north-central region of the Base. HAFB is dissected by several other southwest trending arroyos that control the surface drainage. Hay Draw arroyo is located in the far north. Malone and Ritas 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 north-south trending area east of Tularosa and Alamogordo and 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).

3.3 Regional Geology

The Tularosa Basin is the easternmost extension of the Basin and Range Province of the western United States. The Basin and Range was created by Cenozoic extensional (normal) faulting of Precambrian- through Tertiary-age sedimentary and igneous rocks. The basin is a graben, or downthrown block, bounded by the upthrown fault blocks of the San Andres and Sacramento Mountains.

During the Permian period of the Paleozoic era (approximately 270 million years ago), southern New Mexico was covered by a shallow sea. Limestone and sandstone were deposited, forming thick sedimentary units. Toward the end of the Mesozoic era (approximately 70 million years ago), the major mountain building activities which formed the Rocky Mountains took place. During these events, southern New Mexico emerged from the ocean as the earth's crust upwarped gently in this region. During the Cenozoic era (beginning approximately 70 million years ago), basin and range formation was initiated in what is now the southwestern United States. Approximately 10 million years ago, Cenozoic faulting formed the graben structure known as the Tularosa Basin. During this process, arched portions of rock collapsed between large-scale, north-south trending faults. The Tularosa Basin is a central downthrown area, bounded on the east and west by fault block mountains. Bedded Permian strata can be seen along the faces of the Sacramento and San Andres Mountains. Permian limestones also occur west of HAFB in a low bedrock outcrop near Hurtz Spring. 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 limestone, dolomite, gravel, and other matter continue to flow into the basin. A generalized cross-section of the Tularosa Basin is shown in Figure 3-3.

As the Tularosa Basin is a bolson, which is a basin with no surface drainage outlet, sediments carried by surface water into a closed basin are bolson deposits. The overlying alluvium generally consists of unconsolidated gravels, sands, and clays. The bolson sediments within the Tularosa Basin are derived from the adjacent ranges as erosional deposits of limestone, dolomite, and gypsum. Coarser material is deposited at the base of the mountains while finer material is carrier to the basin's interior. The bolson fill deposits thin out from Alamogordo to less than 100 feet near Hurtz Spring. Bolson fill deposits are 8,000 feet thick or more in the central portion of the Tularosa Basin.

Near-surface geologic conditions at HAFB have been established during this and numerous other Environmental Restoration Program (ERP) investigations. The near-surface bolson deposits at HAFB consist of sediments that are alluvial, eolian, and

lacustrine in origin. 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 because the wind simultaneously reworks alluvial fan sediments and deposits gypsum sands resulting in an intermingling of the two sediment types. The playa, or lacustrine deposits, consist of medium to high plastic clay containing gypsum crystals and are contiguous with the alluvial fan and eolian deposits throughout HAFB. There has been the identification of stiff caliche layers, varying in thickness, at different areas of the Base. A generalized near surface cross-section for HAFB is shown in Figure 3-4.

3.4 Soils

The United States Department of Agriculture (USDA) Soil Conservation Service has identified two soil associations in the vicinity of HAFB; the Holloman-Gypsum Land-Yesum complex, and the Mead silty clay loam. The permeability of these horizons ranges from $4x10^{-4}$ to 1 $x10^{-3}$ centimeters per second. The distribution of soils in the vicinity of HAFB is depicted on Figure 3-5 (USDA, 1981).

The Holloman-Gypsum land-Yesum complex, 0 to 5 percent slopes soil consists of large areas of shallow and deep, well drained soils and areas of exposed gypsum. The Holloman soil makes up about 35 percent of the complex. Typically, the surface layer is light brown very fine sandy loam about 3 inches thick. The upper 13 inches of the substratum is pink very fine sandy loam that is very high in gypsum. Below that, the substratum is white gypsum to a depth of more than 60 inches. This soil is calcareous and mildly alkaline to moderately alkaline throughout. Permeability is moderate, and available water capacity is very low.

Gypsum land makes up about 30 percent of the Holloman-Gypsum land-Yesum complex, 0 to 5 percent slopes. Typically, less than 1 inch of very fine sandy loam overlies soft to hard, white gypsum. The deep Yesum very fine sandy loam makes up about 20 percent of the complex. Typically, the surface layer is light brown very fine sandy loam about 3 inches thick. The upper 9 inches of the substratum is light brown fine sandy loam that is very high in gypsum. Below that, the substratum is pink very fine sandy loam to a depth of more than 60 inches. The soil is calcareous throughout and is mildly alkaline. Permeability is moderate, and available water capacity is moderate. Many fine gypsum crystals are found throughout the profile.

The soil type located across the main drainage area for the installation is Mead silty clay loam, 0 to 1 percent slopes. This deep, poorly drained, nearly level soil is on outer fringes of alluvial fans. This soil formed in fine textured alluvium over lacustrine lake sediment. It is very high in salt content because of periodic flooding and poor drainage. Slopes are smooth and concave. Typically, the surface layer is reddish brown silty clay loam and clay loam about 5 inches thick. The substratum, to a depth of 48 inches, is light reddish brown clay that has a high content of salts. Below that, the substratum is lacustrine material of variable texture and color to a depth of more than 60 inches. Included with this soil are areas of Holloman soils and Gypsum land along the margins

of the unit of steep, short gully sides and knolls. These inclusions make up about 15 percent of the map unit for this soil type. Individual areas are generally smaller than 10 acres. This soil is moderately calcareous throughout and is moderately to strongly alkaline. It has a layer of salt that is more soluble than gypsum. Permeability is very slow, and available water capacity is low.

3.5 SWMU 122 and 123 Site Geology

Site specific geologic information was obtained from the compilation of lithologic data from the 16 soil borings drilled during this RFI. Continuous lithologic logging was conducted for each borehole drilled in accordance with the Unified Soil Classification System. The borehole logs from this investigation are included in Appendix B of this Report.

The stratigraphy underlying SWMU 122 and 123 consists primarily of interbedded, fine-grained silts, clays, and sands. From grade to approximately 13 ft bgs, soils are predominantly moist silty sands and silty clays. Saturated soils are generally encountered between 10 and 12 ft bgs. A roughly 2 ft thick cemented sand/silty-sand, caliche, layer is present throughout the majority of the site from approximately 13 to 15 ft bgs. A silty clay layer with coarse gypsum crystal inclusions was present in most boreholes from approximately 15 to 18 ft bgs. The groundwater table occurs at 9.5 to 11.5 ft bgs.

3.6 Regional Hydrogeology

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 ft bgs. Flow for the Base is generally towards the southwest with localized influences from the variations in the topography of the Base. In the northern and western portions of the Base, groundwater flows more to the west toward the Ritas Draw, Malone Draw, and Lost River drainages. Groundwater flow is affected by local topography in areas immediately adjacent to arroyos, where groundwater flows directly toward the drainages regardless of the regional flow pattern.

Figure 3-6 shows the basewide groundwater flow direction obtained from water level measurements collected during the 2002 Long Term Monitoring groundwater sampling event. 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, 1992). The majority (over 70 %) of the ERP Sites/Solid Waste Management Units located

across HAFB, have groundwater monitoring wells containing water with an average TDS concentration greater than 10,000 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 NMWQCC limit as potable water and thus, the groundwater beneath HAFB has been designated as unfit for human consumption. Additionally, based on the USEPA document, *Final Draft Guidelines for Ground-water Classification Under the EPA Ground-water Protection Strategy* (USEPA, 1986), the groundwater can be classified as Class III B. Class III B groundwater is characterized by having a TDS concentration greater than 10,000 mg/L, and a low degree of interconnection to adjacent surface waters or groundwater of a higher class. Because the Tularosa is a closed basin, its groundwater does not discharge or connect to any adjacent aquifer. Adjacent surface waters include groundwater surfacing in Lake Holloman. TDS in Lake Holloman ranges from a winter low of 12,400 mg/L to a summer high of 17,000 mg/L (Cole, et al., 1981); therefore, groundwater at Holloman AFB is not interconnected with surface water of a higher class.

There are no potable water wells on HAFB. Potable water for the Base (Boles, Douglas, and San Andres well fields) and the city of Alamogordo is derived from the foot of the nearby Sacramento Mountains, just south of Alamogordo. According to a groundwater well inventory (Table 3-1) prepared by the New Mexico Office of the State Engineer, there are approximately 25 domestic, 15 commercial, 7 irrigation, and 3 livestock wells located within a 4-mile radius of Holloman AFB (New Mexico Water Rights Reporting System [NMWRRS] database, 2009). As shown on Figure 3-7, these wells are located along HAFB's northern and eastern boundaries (upgradient and cross gradient respectively).

3.7 SWMU 122 and 123 Site Hydrogeology

To determine the groundwater flow direction, and horizontal hydraulic gradient, groundwater elevations were measured at 15 monitoring wells located throughout the SWMU 122 and 123 monitoring well network on July 13, 2009. Groundwater onsite primarily occurs in sands and silty sands in a shallow unconfined aquifer approximately 9.5 to 11.5 ft bgs. Static water elevations at the site ranged from 4,079.42 ft amsl at SWMU122-MW01 to 4,077.27 ft amsl at SWMU122-MW12. Table 3-2 presents the groundwater elevation data collected during this RFI.

A potentiometric surface map of SWMU 122 and 123 was developed using the data collected in July 2009 (Figure 3-8). The SWMU 122 and 123 groundwater flow direction is generally toward the south-southeast, which is different than the typical south-southwest Basewide flow direction at HAFB. The close proximity of SWMUs 122 and 123 to the Dillard Draw Arroyo, located approximately 1,000 ft due east, has influenced groundwater flow direction toward this surface drainage feature.

The horizontal hydraulic gradient was calculated along the groundwater flow lines within

the SWMU 122 and 123 monitoring well network. The horizontal gradient for SWMU 122 and 123 is approximately 0.004 ft/ft and was calculated using water levels obtained from monitoring wells SWMU122-MW01 (upgradient) and SWMU122-MW12 (downgradient). Although slug tests (slug test data is used to calculate hydraulic conductivity) were not performed during the RFI investigation, the hydraulic conductivity at nearby ERP sites SD-08 and OT-14 is 3.48 x 10^{-3} feet/minute, and 3.47 x 10^{-3} feet/minute, respectively (Radian, 1992). Based on the data from slug tests conducted at these sites, the groundwater velocity at SWMUs 122 and 123 is estimated to be approximately 19 feet/year.

3.8 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 are in the 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”. The annual rainfall for Alamogordo is approximately 12 inches per year[1]. Much of the precipitation falls during the mid-summer monsoonal period (July and August) as brief, yet frequent, intense thunderstorms culminating to 30 to 40% of the annual total rainfall.

3.9 Current and Future Land Use

The land surrounding HAFB consists of residential areas to the east and northeast (City of Alamogordo), rangeland to the south, the White Sands National Monument to the west, and areas where military activities are conducted to the north. The desert terrain of the area immediately surrounding HAFB has limited development, and there are no agricultural operations, residential communities, or large industrial operations located adjacent to the Base. HAFB is an active military installation and is expected to remain active for the foreseeable future. No transfer of military property to the public is anticipated, and public access to the Base is restricted.

Residential development on the Base is limited by environmental and operational constraints imposed by the 100-year floodplain, historic sites, and areas identified under the Installation Restoration Program. Safety and noise zones also limit residential

[1] http://countrystudies.us/united-states/weather/new-mexico/

development on HAFB. Future plans for residential development on the Base include renovation of existing structures, replacement of inefficient buildings, and expansion into open areas in the southeast corner of the Base (HAFB, 2000). Future land use at SWMU 122 and 123 is not expected to differ significantly from current land use practices.

3.10 Current and Future Water Use

At present, the primary fresh water resource for the City of Alamogordo and HAFB is Lake Bonita, 60 miles northeast of the Tularosa Basin. Currently, there are no potable supplies of groundwater or surface water located on the Base. HAFB obtains its water supply from the City of Alamogordo and the HAFB wells in the Boles, San Andres, and Douglas well fields at the base of the Sacramento Mountains. No water supply wells are located on or near the Base because of poor groundwater quality (TDS greater than 10,000 mg/L).

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4 SOURCE CHARACTERIZATION

Based on the previous investigations described in Section 2, SWMUs 122 and 123 have been the subject of five environmental investigations and three PCS removal actions that were conducted from 1988 through 2005. Source area characterization for these two sites has been described in the following eight historical documents:

- *RCRA Facility Assessment Preliminary Review/Visual Site Inspection Report*, 1988, A.T. Kearney, Inc and DPRA Inc.
- *Phase I RCRA Facility Investigation Report, Table 2 Solid Waste Management Units,* 1994, Radian Corporation.
- *Closure Report for Remediation of POL – Contaminated Sites and Oil/Water Separator Removals, Holloman Air Force Base, New Mexico, July – November, 1995,* 1995, EBASCO Services, Inc., and Groundwater Technology Government Services, Inc.
- *Additional Characterization of POL-Contaminated Sites SWMU-3, SWMU-8, SWMU-36, SWMU-123 and OT-44, Holloman Air Force Base, New Mexico,* 1996, Groundwater Technology Government Services, Inc.
- *Final Closure Report Addendum for Phase II Remediation of POL-Contaminated Sites and Oil/Water Separator and Waste Oil Tank Removals, Holloman Air Force Base, New Mexico,* 1997, Foster Wheeler Environmental Corporation.
- *Results of Additional Soil Sampling for Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico,* 1999, Foster Wheeler Environmental Corporation.
- *Site Investigation Report SWMU 123, Holloman Air Force Base, New Mexico,* 2004, Bhate Environmental Associates, Inc.
- *Voluntary Corrective Measures Work Plan SWMU 123, Holloman Air Force Base, New Mexico,* 2005, Bhate Environmental Associates, Inc.

The primary objectives of the SWMU 122 and 123 RFI were to:

1. Identify potential releases to the subsurface soil and groundwater from the previously removed Building 702 Waste Oil Tank (SWMU 122).
2. Delineate the downgradient horizontal extent of VOC (benzene, toluene, ethylbenzene, and xylene) groundwater contamination from the previously removed Building 704 Waste Oil Tank (SWMU 123) that has been identified under the POL Washrack.
3. Collect sufficient analytical data to complete a site-specific risk assessment of the soil and groundwater exposure pathways.
4. Collect the proper data to meet the DQOs to support closure of these two sites based on guidance from the NMED.

The purpose of the RFI at SWMU 122 and 123 was to collect soil and groundwater data to fill existing data gaps. The results of the additional subsurface soil and groundwater characterization at SWMU 122 and 123 are presented in Section 7 (Nature and Extent of Contamination) of this Report.

5 FIELD ACTIVITIES

This section presents a summary of the SWMU 122 and 123 RFI field activities performed by NationView from July 7 to 15, 2009.

The objectives of the RFI activities at the previously removed Building 702 Waste Oil Tank (SWMU 122) and the previously removed Building 704 Waste Oil Tank (SWMU 123) were to collect additional soil and groundwater data to evaluate the current conditions of these two sites. To meet the RFI objectives at SWMU 122 and 123, the following activities were performed by NationView in July 2009:

- Advanced and sampled four boreholes (SWMU122-DP01 through SWMU122-DP04) around the previously removed Building 702 Waste Oil Tank (SWMU 122) to identify potential releases to the soil and groundwater.
- Collected groundwater samples from 3 existing monitoring wells (SWMU123-MW3, SWMU123-MW4, and SWMU123-MW5) and 12 newly installed monitoring wells (SWMU122-MW01 through SWMU122-MW12).
- Analyzed soil and groundwater samples for VOCs, SVOCs, TPH, PCBs, TAL metals, and TDS (groundwater only).
- Geotechnical soil samples were collected from soil boring SWMU122-DP05 to provide geotechnical data of non-impacted soils at the site.

Prior to sampling activities, a Base Dig Permit (AF Fm 103) with a utility clearance, was submitted and approved by the proper HAFB offices. All completed field and waste handling activities at SWMU 122 and 123 were performed in accordance with HAFB Standard Operating Procedures (SOPs), provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b), as outlined in the *Final RCRA Facility Investigation Work Plan, SWMUs 122 and 123, Holloman Air Force Base, New Mexico* (NationView, 2009).

5.1 Subsurface Soil Sampling

Four soil borings (SWMU122-DP01 through SWMU122-DP04) were advanced around the perimeter of the previously removed Building 702 Waste Oil Tank (SWMU 122) (Figure 5-1). The soil borings were advanced in accordance with HAFB SOPs provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b) using a Geoprobe Systems® 6600 Series, DPT drill rig equipped with a Geoprobe Systems® DT325 Dual Tube Soil Sampling System. These soil borings were sampled continuously to depths ranging between 12 and 18-ft bgs. Two soil samples for chemical analysis were collected from each borehole. As shown of Figure 5-2, soil boring SWMU122-DP04 was converted into a permanent 1-inch diameter polyvinyl chloride (PVC) monitoring well (SWMU122-MW01).

Soils were visually classified in the field by a geologist according to the Unified Soil Classification System. Soils were screened using a MiniRae® 2000 PID, with soil-

headspace screening techniques to aid in selecting samples for laboratory chemical analysis. Two soil samples were collected from each of the four borings for laboratory chemical analysis (VOCs, SVOCs, TPH, PCBs, and TAL metals). Due to the lack of elevated PID readings or visual discoloration indicative of contamination, soil samples from each of these four boreholes were collected from approximately 10-ft bgs (capillary fringe) and 5-ft bgs, halfway between the ground surface and saturated soils. Soil samples were placed in the appropriate containers, packed on ice at 4 degrees Celsius (ºC), and delivered under chain-of-custody to Accutest Laboratories in Orlando, Florida. Soil boring logs for this RFI are included in Appendix B of this Report.

Two soil samples were also collected for geotechnical analysis from upgradient boring SWMU122-DP05, to provide geotechnical data from non-impacted soils (Figure 5-1). Geotechnical soil samples were collected from depths of 3 to 4-ft bgs, and 7 to 8-ft bgs (above the water table) and were analyzed for dry bulk density, specific gravity, moisture content, and fractional organic carbon content. Geotechnical samples were collected in a thin-walled soil sampler to ensure a non-disturbed sample, and shipped under chain-of-custody to Accutest Laboratories in Orlando, Florida. A summary of soil boring locations and sample intervals is provided as Table 5-1.

In addition, 11 soil borings were advanced downgradient of SWMUs 122 and 123 using the Geoprobe Systems® DT325 Dual Tube Sampling System for installing a network of permanent monitoring wells (SWMU122-MW02 through SWMU122-MW12) (Figure 5-2). These soil borings were advanced to a depth of 18 to 20 ft bgs. Soils from these borings were lithologically logged and screened with a PID via headspace readings by a geologist. Soil samples for offsite chemical analysis were not collected from these boreholes.

5.2 Monitoring Well Installation and Development

As shown on Figure 5-2, 12 soil borings were converted into permanent 1-inch PVC monitoring wells (SWMU122-MW01 through SWMU122-MW12). Upon completion of soil sampling a 10 foot section of 0.010-inch slot pre-packed PVC well screen threaded to 1-inch PVC riser was lowered into the outer casing of the DPT tool string. As the DPT tool string was retracted from the borehole, 10/20 mesh silica sand was tremmied into the boring to a height of 2-ft above the top of the well screen to provide an additional sand filter pack for the monitoring well. Following placement of the sand filter pack, a 2-ft granular bentonite seal was installed above the sand filter pack and hydrated with potable water. Portland cement grout was then gravity fed into the borehole for the remaining annular seal, extending to a height of 1-ft bgs. Monitoring wells SWMU122-MW01 through SWMU122-MW12 were completed at the ground surface with an 8-inch protective flush mount cover, and a 1-inch locking cap at the well head. Monitoring well construction diagrams are provided in Appendix C and a summary of monitoring well construction details is included in Table 5-2.

The required time period between monitoring well installation and the initiation of well development referenced in the *Final RCRA Facility Investigation Work Plan, SWMUs 122 and 123, Holloman Air Force Base, New Mexico* (NationView, 2009) was a minimum of 48 hours. A variance for this requirement was executed during the performance of well development on the newly installed monitoring wells at SWMUs 122 and 123. As per the *New Mexico Environment Department Ground Water Discharge Permit Monitoring Well Construction and Abandonment Guidelines* (NMED, 2008) monitoring well development is allowed to commence after a minimum of 12 hours has elapsed following well completion. A variance form for this field change was completed on June 23, 2009, and is included in Attachment B of this Report.

Monitoring wells SWMU122-MW01 through SWMU122-MW12 were developed using a combination of surging and pumping. Prior to well development, a water-level measurement was taken at each well using an electronic water-level probe. This information, in addition to well depth, and well diameter, was used to calculate the volume of water in each well. Each newly installed monitoring well was surged in 2-to-3 foot intervals from the bottom of the screened interval to agitate and remove the fine grained sediment from the filter pack. At the completion of surging the groundwater was removed using a peristaltic pump attached to ¼-inch polyethylene tubing. Development was performed by over-pumping the well until at least five well volumes had been removed, and the potential of Hydrogen (pH), turbidity, dissolved oxygen, specific conductivity, and temperature had stabilized by +/- 10 percent for at least three consecutive readings with a multi-parameter groundwater meter. Monitoring well development forms for each of the newly installed wells at SWMUs 122 and 123 are provided in Appendix D of this Report.

5.3 Groundwater Sampling

In July 2009, groundwater samples were collected from 3 existing monitoring wells (SWMU123-MW3 through SWMU123-MW5) and the 12 newly installed wells (SWMU122-MW01 through SWMU122-MW12) which are shown on Figure 5-2. Prior to sampling, groundwater levels were collected from each monitoring well and the wells were purged using low flow purging techniques with a peristaltic pump, new dedicated ¼-inch polyethylene tubing, and a flow-thru cell. Field parameters were recorded for every well volume of groundwater removed. Field parameters were considered stable when the pH measurements remained constant within 0.1 units; specific conductivity, dissolved oxygen and temperature varied by no more than 10 percent, and turbidity by no more than 5 nephelometric turbidity units. Groundwater samples were not collected until three consecutive field parameter measurements met stabilization criteria. Appendix E provides monitoring well sample collection forms which contain the groundwater purging data recorded prior sample collection. Groundwater samples collected for VOC analysis were collected prior to other analytes, using a new disposable Teflon® bailer. Following the collection of samples for VOC analysis, groundwater samples for the remaining analytes (SVOCs, TPH, PCBs, TDS, and TAL metals) were collected using a peristaltic pump and low-flow sampling techniques.

Samples collected for TAL metals analysis were field filtered using dedicated 0.45 micron disposable filters. Groundwater samples were placed in the appropriate containers, packed on ice at 4 ºC, and delivered under chain-of-custody to Accutest Laboratories located in Orlando, Florida.

5.4 Surveying

The SWMU 122 and 123 RFI boreholes and monitoring wells were surveyed using a Trimble® Geometric Pro XR global positioning system (GPS) in accordance with methods described in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b). The horizontal locations (northing and easting coordinates) are relative to the State Plane Coordinate System New Mexico Central and surveyed to an accuracy of +/- 1.0 ft. Vertical elevations were referenced to the North American Datum (NAD) 1983. The top of casing (vertical control) was used to determine the depth and elevation of the groundwater and surveyed to an accuracy of +/-0.01 ft. Table 3-2 summarizes the monitoring well survey data along with depth to groundwater measurements collected in July 2009.

5.5 Equipment Decontamination

All drilling equipment associated with soil sampling (DPT rod and tooling) was decontaminated in accordance with the HAFB SOPs provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b).

5.6 Waste Handling

All investigation derived waste (IDW) produced during the investigation process was handled in accordance with the HAFB SOPs provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003b).

6 LABORATORY ANALYSIS AND DATA VALIDATION SUMMARY

The analysis of soil and groundwater samples collected during this investigation followed the proposed methodologies presented in the *Final RCRA Facility Investigation Work Plan SWMUs 122 and 123, Holloman AFB, New Mexico* (NationView, 2009). All analytical procedures followed the USEPA SW-846 protocol with the groundwater and soil samples being analyzed in various combinations for the following:

- VOCs by USEPA Method 8260B
- SVOCs by USEPA Method 8270C
- PCBs by USEPA Method 8082
- TPH – GRO, DRO, and ORO by USEPA Method 8015/8015M
- TAL Metals by USEPA 6010B/7470A/7471A

The groundwater samples were also analyzed for:

- TDS by USEPA Method SM19 2540C

All of the laboratory data generated as part of the RFI conducted at SWMUs 122 and 123 was validated by the project chemist. Field Quality Assurance (QA)/Quality Control (QC) samples, including trip blanks, equipment blank, matrix spikes, and matrix spike duplicates were collected to document field and laboratory QA/QC. The analytical data packages are provided in Appendix F (on CD only) and the Data Validation Reports for each data package is provided in Appendix G of this Report. Accutest Laboratories in Orlando, Florida performed the analysis of all samples collected.

Overall, only minor QC issues were identified during the data validation of the laboratory results and the laboratory took all necessary corrective actions. All of the data were determined to be usable with only minor qualifications. Information regarding the precision, accuracy, representativeness, and completeness is provided in the validation reports (Appendix G) with the following sections providing a synopsis of each analyte group.

6.1 Volatile Organic Compounds

Sample SWMU122-MW01 was not properly preserved to a pH<2. This decreased the hold time which resulted in the sample being analyzed outside the requisite timeframe. All compounds were considered estimated and were qualified as estimated, “J”, or as estimated non-detected, “UJ”.

The three trip blanks, associated with all soil samples, were analyzed outside hold time. For qualification purposes, only one trip blank yielded a positive detection for methylene chloride. The associated samples, SWMU122-DP04-10 and SWMU122-DP04-10-A,

were the only ones that reported a positive result for this compound and it was qualified as estimated, “J”.

The laboratory control sample (LCS) recoveries for 1,1-dichloroethylene, trans-1,2-dichloroethylene, and hexane were above QC limits associated with samples SWMU122-MW05 and SWMU122-MW09. The only sample that yielded a positive result for hexane, SWMU122-MW09, was qualified as estimated, “J”. The LCS recovery for acrolein, associated with sample SWMU122-MW06, was below QC limits. This non-detected compound was qualified as estimated, non-detected, “UJ”.

A dilution of samples SWMU122-MW09 was required due to high concentrations of target compounds. Elevated reporting limits were reported.

6.2 Semi-volatile Organic Compounds

No QC deficiencies warranted qualification of the semi-volatile data.

6.3 Polychlorinated Biphenyls

No QC deficiencies warranted qualification of the PCB data.

6.4 Total Petroleum Hydrocarbons

Sample SWMU123-MW5 was analyzed beyond hold time for the analysis of TPH-GRO. This non-detected result was qualified as estimated, non-detected, “UJ”.

The relative percent difference (RPD) between the sample and field duplicate (SWMU123-MW3 and SWMU123-MW3-A) was outside control limits for TPH-DRO and it was qualified as estimated, “J”, in both samples.

Due to high analyte concentrations, samples SWMU123-MW3 (TPH-DRO/ORO) and SWMU122-MW09 (TPH-GRO) required a dilution. Elevated reporting limits were reported.

6.5 Target Analyte List Metals

In numerous samples, the matrix spike (MS)/matrix spike duplicate (MSD) percent recoveries (%Rs) and/or RPD were outside control limits for aluminum, antimony, iron, calcium, copper, magnesium, manganese, sodium and potassium. In most cases, control limits were not applicable for aluminum, iron, calcium, magnesium, and sodium when the sample exceeded the spiked concentration by a factor of four or more.

The potassium recovery was >125% and was qualified estimated, “J”, in the following samples: SWMU122-MW04, SWMU122-MW02, SWMU122-MW03, SWMU122-MW07, SWMU122-MW01, SWMU122-MW08, SWMU123-MW3, SWMU123-MW3-A, SWMU123-MW4, SWMU122-MW05, SWMU122-MW09, SWMU122-MW06,

SWMU122-MW10, SWMU122-MW10-A, SWMU123-MW5, SWMU122-MW11, and SWMU122-MW12. Antimony and manganese yielded recoveries >125% in all associated soil samples and were qualified as either; estimated, "J", or estimated non-detected, "UJ". Those metals not requiring qualification were due to the fact their recovery was <125%.

The RPD for the laboratory duplicate of multiple metals was above QC limits. Arsenic and cobalt, in samples SWMU122-MW04, SWMU122-MW02, SWMU122-MW03, SWMU122-MW07, SWMU122-MW01, and SWMU122-MW08, were qualified as estimated, "J", or estimated non-detected, "UJ". Arsenic in samples SWMU122-MW05 and SWMU122-MW09 was qualified as estimated, "J". Otherwise, low duplicate and sample concentrations deemed the other RPDs acceptable.

The serial dilution of multiple metals was outside QC limits. Only the following metals yielded a sample concentration >50 times the method detection limit (MDL) and necessitated a qualification of estimated, "J". Calcium in groundwater samples SWMU122-MW04, SWMU122-MW02, SWMU122-MW03, SWMU122-MW07, SWMU122-MW01, SWMU122-MW08, SWMU122-MW05, SWMU122-MW09, SWMU122-MW06, SWMU122-MW10, SWMU122-MW10-A, SWMU123-MW5, SWMU122-MW11, SWMU122-MW12, and all soil samples. Sodium in groundwater samples SWMU122-MW04, SWMU122-MW02, SWMU122-MW03, SWMU122-MW07, SWMU122-MW01, SWMU122-MW08, SWMU122-MW06, SWMU122-MW11, and SWMU122-MW12. Iron in groundwater sample SWMU122-MW04 and all soil samples. Vanadium in groundwater and soil samples SWMU122-MW03, SWMU122-MW08, SWMU122-DP01-10.5, SWMU122-DP01-5, SWMU122-DP02-10, SWMU122-DP03-10, SWMU122-DP04-5, SWMU122-DP04-10, and SWMU122-DP04-10-A. Potassium in groundwater samples SWMU123-MW4 and SWMU123-MW5. Magnesium and manganese in all soil samples. Chromium and zinc in soil samples SWMU122-DP01-5 and SWMU122-DP02-10. Cobalt in soil sample SWMU122-DP02-10.

The RPD between the sample and field duplicate (SWMU122-DP04-10 and SWMU122-DP04-10-A) was outside site specific control limits for arsenic, barium, cobalt, magnesium, copper, manganese, and vanadium. These metals were qualified as estimated, "J", in both samples.

Multiple samples required a dilution of various metals due to matrix interference. (See the individual laboratory data validation reports in Appendix G of this Report).

6.6 Total Dissolved Solids

The analysis of samples SWMU122-MW05 and SWMU122-MW09 was performed outside hold time. Additionally, TDS was detected in the method blank associated with the aforementioned samples. Therefore, TDS was qualified as estimated, "J", in both samples.

The RPD for the laboratory duplicate of samples SWMU123-MW3, SWMU123-MW3-A, SWMU123-MW4, SWMU122-MW10, SWMU122-MW10-A and SWMU123-MW5 was

outside QC limits. Therefore, TDS was qualified as estimated, “J”, in these samples.

The RPD between the sample and field duplicate (SWMU122-MW10 and SWMU122-MW10-A) was outside site specific control limits and was qualified as estimated, “J”, in both samples.

A dilution of samples SWMU122-MW04, SWMU122-MW02, SWMU122-MW07, SWMU122-MW01, SWMU122-MW08, SWMU123-MW3, SWMU123-MW3-A, SWMU123-MW4, SWMU122-MW10, and SWMU123-MW5 was required due to high analyte concentrations. Elevated reporting limits were reported.

7 NATURE AND EXTENT OF CONTAMINATION

This section presents the soil and groundwater analytical results from the RFI field activities completed at SWMUs 122 and 123 by NationView in July 2009. This section also presents the current nature and extent of contamination found in soil and groundwater during this investigation. The soil and groundwater sampling locations from this investigation are shown on Figures 5-1 and 5-2, respectively.

The objectives of the additional soil and groundwater sampling conducted during the RFI at SWMUs 122 and 123 were to; identify potential releases from the previously removed Building 702 Waste Oil Tank (SWMU 122), delineate the horizontal extent of VOC groundwater contamination from the previously removed Building 704 Waste Oil Tank (SWMU 123), and to collect sufficient analytical data to complete a site-specific risk assessment to support closure of these SWMUs (if required). The ultimate objective is to obtain NFA status under criterion #5 (Appendix 4-B [NMED, 2004a]) and obtain a Class III permit modification to remove SWMU 122 and SWMU 123 from Table A of the HAFB Hazardous Waste Facility Permit No. NM6572124422.

The soil (geochemical and geotechnical) and groundwater analytical results collected during this RFI are summarized in Tables 7-1 through 7-3. A duplicate soil sample was collected in borehole SWMU122-DP04 (10 ft bgs) and duplicate groundwater samples were collected from monitoring wells SWMU123-MW3 and SWMU122-MW10. The complete laboratory analytical results for the RFI soil and groundwater sampling are included in Appendix F of this report (on CD only).

7.1 Soil Analytical Results

In July 2009, 9 subsurface soil samples (including one duplicate) were collected from the 4 DPT soil borings (SWMU122-DP01 through SWMU122-DP04) which were advanced in close proximity to the former Building 702 Waste Oil Tank (SWMU 122). These samples were analyzed for VOCs, SVOCs, TPH (DRO, GRO, and ORO), PCBs and TAL metals. The subsurface soil samples were collected at approximately 5 and 10 feet bgs. The last digit of the sample identification number indicates the bottom of the sample interval; the SWMU 122 analytical results for soil are summarized in Table 7-1 and the boring locations with selected results are shown on Figure 7-1.

7.1.1 Volatile Organic Compounds

Methylene chloride was the only VOC detected above the MDL in the soil samples collected during the RFI. Estimated concentrations of methylene chloride were detected in five samples with concentrations ranging from 6.0 J to 12.2 J µg/kg and were below the NMED SSL (199 mg/kg).

7.1.2 Semi Volatile Organic Compounds

All SVOC compounds were not detected in any of the nine SWMU 122 soil samples collected during this RFI (Table 7-1).

7.1.3 Total Petroleum Hydrocarbons

All TPH fractions (-GRO, -DRO, and –ORO) were not detected in any of the nine SWMU 122 soil samples collected during this RFI (Table 7-1).

7.1.4 Polychlorinated Biphenyls

All PCB compounds were not detected in any of the nine SWMU 122 soil samples collected during this RFI (Table 7-1).

7.1.5 TAL Metals

Nineteen of the twenty-three TAL metals were detected above the MDL (Table 7-1). With the exception of three detections of arsenic, all TAL metals were detected below their respective SSLs (NMED, 2009). Arsenic was detected slightly above the SSL (3.9 mg/kg) and the NMED approved background level (3.7 mg/kg) in soil samples SWMU122-DP02-10 (6.3 mg/kg), -DP03-10 (5.8 mg/kg), and –DP04-10-A (7.5 mg/kg). Although these three detections of arsenic slightly exceeded the NMED SSL and approved background level, they most like represent the natural variability in soil geochemistry at HAFB. Figure 7-1 shows the arsenic concentrations which were detected above the SSL. Estimated concentrations of selenium were detected above the NMED approved HAFB background level (1.4 mg/kg) in all soil samples. Selenium concentrations range from 1.9J mg/kg (SWMU122-DP01-05) to 7.3J mg/kg (SWMU122-DP03-05). Additionally, magnesium concentrations exceeded the NMED approved HAFB background level (16,991 mg/kg) in soil samples SWMU122-DP02-10 (18,000 mg/kg) and SWMU122-DP03-10 (18,600 mg/kg). It should be noted that magnesium does not have a NMED SSL.

7.1.6 Geotechnical Soil Samples

The two geotechnical samples collected from offset borehole SWMU122-DP05 (SWMU122-DP05-4 and -8) were analyzed for dry bulk density, fractional organic carbon, moisture (percent solids), and specific gravity. The geotechnical analytical results are presented in Table 7-2 and the complete results from Accutest Laboratories are also included in Appendix F of this Report.

7.2 Groundwater Analytical Results

Groundwater samples were collected from the twelve new monitoring wells (SWMU 122-MW01 through SWMU122-MW12) along with three existing onsite monitoring wells (SWMU123-MW3 through SWMU123-MW5) during the SWMU 122 and 123 RFI

sampling event (July 2009). The groundwater samples collected from the SWMU 122 and 123 monitoring well network were analyzed for VOCs, SVOCs, TPH, PCBs, TAL metals, and TDS. The analytical results are presented in Table 7-3 and the monitoring well locations are shown on Figure 7-2. The following narrative provides a summary of the groundwater data which exceeds the current screening criteria (USEPA MCLs and/or the NMWQCC groundwater standards) and comparison to the applicable NMED background levels (NMED, 2011) for TAL metals.

7.2.1 Volatile Organic Compounds

Twenty one VOCs were detected above the MDL in the seventeen groundwater samples (including two duplicates) collected at SWMUs 122 and 123. Total xylenes (using the combined concentrations of m-p and o-xylene) was the only VOC detected above its respective USEPA MCL and/or the NMWQCC groundwater standard. In monitoring well SWMU122-MW09, m-p and o-xylene were detected with a combined concentration of 725 µg/L, which is above the NMWQCC groundwater standard (620 µg/L) but below the USEPA MCL (10,000 µg/L) for total xylenes. Monitoring well SWMU122-MW09 is located on the second downgradient line of wells from SWMUs 122 and 123 (Figure 7-2). This exceedence of total xylenes (combined m-p, and o-xylene concnettations) does not appear to be related to SWMU 122 or 123 as m-p-xylene, and o-xylene were not detected in the groundwater samples collected from the six upgradient wells (SWMU122-MW03, -MW04, -MW05, SWMU123-MW3, -MW4, and -MW5) which are located immediately downgradient from the two SWMUs (Table 7-3). This suggests that the total xylenes groundwater contamination may be related to the up/cross-gradient POL tank farm located less than 100 ft to the north-northeast from SWMU122-MW09. Figure 5-2 illustrates the location of monitoring well SWMU122-MW09 in relationship to the tank farm.

7.2.2 Semi-Volatile Organic Compounds

Low and estimated concentrations of seven SVOCs were detected in nine of the groundwater samples collected at SWMUs 122 and 123. As shown on Table 7-3 each of these SVOC detections were below their respective USEPA and NMWQCC action levels.

7.2.3 Total Petroleum Hydrocarbons

TPH fractions GRO (C_6 – C_{10}), DRO (C_{10} – C_{22}), and ORO (>C_{22} – C_{36}) were detected above the MDL in the groundwater samples collected from seven monitoring wells (Table 7-3). TPH-DRO was detected slightly above the NMED TPH screening guideline (Concentration in Groundwater) for diesel #2/crankcase oil (30.4 mg/L [NMED, 2006, Table 2b]) in the groundwater sample collected from SWMU123-MW3 with a concentration of 37.0 mg/L. Additionally, the duplicate groundwater sample collected from this monitoring well (SWMU123-MW3-A) contained a much lower TPH-DRO concentration (0.548 mg/L) which is well below the NMED TPH screening guideline for diesel#2/ crankcase oil. Monitoring well SWMU123-MW3 is located 50 ft down/cross-

gradient from the previously removed Building 704 waste oil tank (SWMU 123) (Figure 7-2). All other detections of TPH-GRO, -DRO, and –ORO (individual and combined) in groundwater samples collected during this sampling event were below the NMED TPH screening guideline for diesel #2/crankcase oil.

7.2.4 Polychlorinated Biphenyls

All PCB compounds were not detected in any of the SWMU 122 and 123 groundwater samples collected during this RFI (Table 7-3).

7.2.5 TAL Metals

A total of 19 TAL metals were detected above the MDL. Four of the TAL metals (arsenic, iron, manganese, and thallium) were detected above the lowest of their respective USEPA MCLs, USEPA Secondary MCLs, and/or NMQWCC groundwater standards (Table 7-3).

Arsenic was detected above the NMWQCC groundwater standard (10 µg/L) in eight groundwater samples, with concentrations ranging from 10.7 µg/L (SWMU122-MW01) to 29.0 µg/L (SWMU123-MW4). However, it should be noted that arsenic is below the basewide background Upper Tolerance Limit (UTL) (28.53 µg/L) in all groundwater samples except SWMU123-MW4 (29.0 µg/L) (NationViewIBhate JV III, 2011).

Iron was detected above the USEPA Secondary MCL (300 µg/L) in four groundwater samples (SWMU122-MW01, SWMU122-MW04, SWMU122-MW07, and SWMU122-MW12) with concentrations ranging from 526 µg/L to 13,600 µg/L. In addition, iron was detected above the NMED approved background level for dissolved iron (65.5 µg/L) in monitoring well SWMU122-MW09 (245 J µg/L).

Manganese was detected above the USEPA Secondary MCL (50 µg/L) in 12 groundwater samples, with concentrations ranging from 80.1 µg/L (SWMU122-MW02) to 2,490 µg/L (SWMU122-MW03). Although 12 wells had iron and/or manganese detections above the their applicable USEPA Secondary MCLs, the National Secondary Drinking Water Regulations are non-enforceable guidelines regarding contaminants that may case aesthetic effects (such as taste, odor, or color) in drinking water (USEPA, 2009).

Two estimated concentrations of thallium were detected above the USEPA MCL (2 µg/L); 4.2 J µg/L in monitoring well SWMU122-MW05 and 4.0 J µg/L in monitoring well SWMU122-MW09. Figure 7-2 presents the distribution of TAL metals detected in groundwater which exceeded applicable USEPA MCLs, USEPA Secondary MCLs, and/or NMWQCC groundwater standards at SWMU 122 and 123.

Additionally, eight metals (barium, chromium, cobalt, copper, nickel, selenium, vanadium, and zinc) were detected in 13 groundwater samples above NMED approved HAFB background levels (Table 3, NMED, 2011), but at concentrations below their

respective action levels (MCLs and/or NMWQCC groundwater standards). However, in the case of vanadium there is not a current MCL or NMWQCC groundwater standard.

7.2.6 Total Dissolved Solids

TDS concentrations ranged from 1,750 mg/L (SWMU122-MW03) to 23,000 mg/L (SWMU122-MW12) and exceeded both the NMWQCC groundwater standard (1,000 mg/L) and the USEPA Secondary MCL (500 µg/L). In addition, two samples (SWMU122-MW06 and SWMU122-MW12) had TDS concentrations above 10,000 mg/L and exceeded the USEPA guidelines for potable water (USEPA, 1986). Furthermore, the TDS concentrations less than 10,000 mg/L (13 of the 15 SWMU 122 and 123 monitoring wells) are most likely anthropogenic, due to the leaking underground water lines which traverse the site and runoff from the POL Washrack. Figure 7-2 presents all of the TDS concentrations which were detected above the USEPA Secondary MCL and the NMWQCC groundwater standard during the 2009 groundwater sampling event.

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8 RISK BASED EVALUATION

This section presents the methodology used for the risk evaluation for SWMUs 122 and 123. The methodology consists of the following:

1. Compilation of data (refer to Section 8.1);
2. Identification of chemicals of potential concern (COPCs) (refer to Section 8.2);
3. Development of exposure model (EM) (refer to Section 8.3);
4. Calculation of representative concentrations (refer to Section 8.4);
5. Calculation of risk for complete exposure pathways (refer to Section 8.5);
6. Calculation of cumulative risk (refer to Section 8.6); and
7. Uncertainty analysis (refer to Section 8.7).

Each of the above steps is discussed in detail below.

8.1 Compilation of Data

8.1.1 Summary of All Available Data

Following is a summary of the soil data available at SWMUs 122 and 123:

Date	Sample Locations	No. of Sample Locations	No. of Samples
1993	021-B01, 022-B01, 022-B02, 123-B01, 123-B02, 123-B03	6	12 [a]
1995	SWMU-123-1-7 to SWMU-123-5-7	5	5 [b]
February 1996	SWMU-123-DP-1, SWMU-123-DP-3, SWMU-123-DP-4	3	6 [c]
March 1997	SWMU123-01-09 to SWMU123-05-09	5	5 [d]
January 1999	SWMU-SB-A, SWMU-SB-B, SWMU-SB-C, SWMU-SB-E, SWMU-SB-I, SWMU-SB-J	6	13 [e]
April 2004	SB-1 to SB-5, DP-01 to DP-09	14	31 [f]
2005 – 2006	SW01 to SW06, SW06-OE, SW07, SW08, SW08-OE, SW-09 to SW16, Bottom Sample 1 to Bottom Sample 4	21	23 [g]
July 2009	SWMU122-DP01 to SWMU122-DP04	4	9 [h]

Notes:

[a] Samples collected in 1993 were not used for the Risk Assessment (RA) since samples from 123-B01 and 123-B02 were located where the soil was over excavated in 1995. The remaining samples are over 19 years old and not representative of current conditions.

[b] Samples collected in 1995 were not used for the RA since samples were collected where the soil was over excavated and disposed off-site in 1997.

[c] Samples collected in February 1996 were not used for the RA since samples are over 16 years old and not representative of current conditions. Recent and more representative samples are available from this area.

[d] Samples collected in March 1997 were not used for the RA since samples were located where the soil was over excavated in 2005 – 2006.

[e] Samples collected in January 1999 were not used for the RA since samples were located where the soil was over excavated in 2005 – 2006.

[f] Three duplicate samples were collected. Samples collected in April 2004 were not used in the RA since samples are over 8 years old and not representative of current conditions. Samples from SB-1, SB-2, DP-02, DP-03, DP-04, and DP-08 were over excavated and disposed off-site in 2005 – 2006.
[g] One duplicate sample was collected from SW09. Samples from SW01 and SW06 were not used in the RA since samples were over excavated.
[H] One duplicate sample was collected from SWMU122-DP-04 (at 10 ft bgs).

Following is a summary of the groundwater data available at SWMUs 122 and 123:

Monitoring Well	No. of Sampling Events	Sampling Date
SWMU123-MW1 [a]	1	May 2004 [c]
SWMU123-MW2 [a]	2	May 2004 [c], Sep. 2004 [c]
SWMU123-MW3	3 [b]	May 2004 [c], Sep. 2004 [c], July 2009
SWMU123-MW4	3	May 2004 [c], Sep. 2004 [c], July 2009
SWMU123-MW5	3	May 2004 [c], Sep. 2004 [c], July 2009
SWMU122-MW01	1	July 2009
SWMU122-MW02	1	July 2009
SWMU122-MW03	1	July 2009
SWMU122-MW04	1	July 2009
SWMU122-MW05	1	July 2009
SWMU122-MW06	1	July 2009
SWMU122-MW07	1	July 2009
SWMU122-MW08	1	July 2009
SWMU122-MW09	1	July 2009
SWMU122-MW10	1 [b]	July 2009
SWMU122-MW11	1	July 2009
SWMU122-MW12	1	July 2009

Note:
[a] SWMU123-MW1 and SWMU123-MW2 were destroyed during the excavation in 2005 – 2006.
[b] One duplicate sample was collected in July 2009.
[c] Samples collected in 2004 were not used for the RA since these samples are too old and are not representative of current conditions.

8.1.2 Summary of Data Used for Risk Assessment

Based on the above, the soil data used for the RA is summarized below:

Date	Sample Locations	No. of Sample Locations	No. of Samples
2005 – 2006	SW02 to SW05, SW06-OE, SW07, SW08, SW08-OE, SW-09 to SW16, Bottom Sample 1 to Bottom Sample 4	19	21
July 2009	SWMU122-DP01 to SWMU122-DP04	4	9

Figure 1 in Appendix A-8 and Figure 5-1 show the location of the soil samples used for the RA.

Based on the above, the groundwater data used for the RA are summarized below:

Monitoring Well	No. of Sampling Events	No. of Samples	Sampling Date
SWMU123-MW3	1	2	July 2009
SWMU123-MW4	1	1	July 2009
SWMU123-MW5	1	1	July 2009
SWMU122-MW01	1	1	July 2009
SWMU122-MW02	1	1	July 2009
SWMU122-MW03	1	1	July 2009
SWMU122-MW04	1	1	July 2009
SWMU122-MW05	1	1	July 2009
SWMU122-MW06	1	1	July 2009
SWMU122-MW07	1	1	July 2009
SWMU122-MW08	1	1	July 2009
SWMU122-MW09	1	1	July 2009
SWMU122-MW10	1	2	July 2009
SWMU122-MW11	1	1	July 2009
SWMU122-MW12	1	1	July 2009

Figure 7-2 shows the location of the groundwater samples used for the RA.

Chemicals with at least one detected concentration anywhere on the site were considered for the RA. Tables 8-1(a) and 8-2(a) present the soil and groundwater data used for the RA, respectively.

For chemicals not detected, reporting limits are presented. The data compiled in Tables 8-1(a) and 8-2(a) were quantitatively evaluated for use in the RA as follows:

- Conservatively, data with laboratory qualifier “J” were considered as detected concentrations.
- Naphthalene was reported using two analytical methods under VOCs (USEPA Method 8260) and SVOCs (USEPA Method 8270). The two concentrations were treated as follows and naphthalene is listed under the VOCs:
    - If both concentrations were detected, the average of the two was taken and considered as a detected concentration.
    - If one of the concentrations was detected and the other was below the reporting limit, the result below the reporting limit was replaced with half the reporting limit. The average of the two concentrations was calculated and the result was considered as a detected concentration.
    - If both concentrations were below the reporting limits, the lower reporting limit was used and the concentration was considered as not detected. Typically, the SVOCs analytical method had higher reporting limits.
- Xylene concentrations were reported as o-xylene and m,p-xylene. Total xylenes were considered in the RA by treating isomer xylenes as follows:

  - If the isomer concentrations were detected, the concentrations were added and considered as a detected value.
  - If one isomer concentration was detected and the other was below the reporting limit, the concentration below the reporting limit was replaced with half the reporting limit. The two concentrations were added and considered as detected.
  - If both isomer concentrations were below the reporting limits, the reporting limits were added and considered as not detected.

- TPH concentrations reported as TPH-GRO (C6-C10) were not considered in the RA since individual compounds that contribute to TPH-GRO (e.g., benzene, toluene, ethylbenzene, xylenes, and naphthalene) are evaluated individually. It is generally known that the risks of these constituents are the risk drivers for TPH-GRO (C6-C10). This is consistent with methodology per the *New Mexico Environment Department TPH Screening Guidelines* (NMED, 2006).
- Since the NMED (2006) presents the screening levels for TPH which consists of C11 to C36, TPH concentrations reported as TPH-DRO (>C10-C22) and TPH-ORO (>C22-C36) were added as follows and are shown as TPHs (>C10-C36):
  - If both TPH-DRO and TPH-ORO fractions contained detectable concentrations, the sum of the two concentrations were taken and considered as detected.
  - If one of the two concentrations was reported as a detectable concentration and the other concentration was below the reporting limit, the latter was replaced with half the reporting limit and the sum of the two concentrations was used and considered as detected.
  - If both concentrations were below the reporting limits, the reporting limits were added and considered as not detected.
- All duplicate samples were averaged as follows:
  - If both samples contained detectable concentrations, the average of the two were taken and considered as detected.
  - If one of the samples contained a detected concentration and the other was below the reporting limit, the result below the reporting limit was replaced with half the reporting limit and average of the two were taken and considered as detected.
  - If both samples had concentrations below the reporting limits, the average of two reporting limits was taken and the sample was considered as not detected.

Based on the above considerations, Tables 8-1(b) and 8-2(b) present the soil and groundwater data used for the RA. Further, Tables 8-1(c) and 8-2(c) present summary statistics of soil and groundwater data used for the RA. Per Table 8-1(c), VOCs and SVOCs in soil had detection frequencies in the range of 4% to 18%. TPHs in soil had a

detection frequency of 39%. Metals in soil except for arsenic, beryllium, cadmium, and lead had detection frequencies of 100%. Per Table 8-2(c), VOCs and SVOCs in groundwater had detection frequencies in the range of 7% to 40%. TPHs in groundwater had a detection frequency of 47%. Most metals in groundwater had detection frequencies greater than 40%.

8.2 Identification of Chemicals of Potential Concern

To identify COPCs, the maximum detected concentration of each chemical that had at least one detected concentration was compared with its applicable screening level as discussed below.

8.2.1 Chemicals of Potential Concern in Soil

As described in Section 2.5.1 of this Report, and as per the responses to the NMED's comments on the *Final RCRA Facility Investigation Work Plan SWMUs 122 and 123* (NationView, December 2009), the screening levels for soil were obtained from the following sources:

- NMED SSLs for residential land use (NMED, 2009);
- USEPA RSLs for residential land use (USEPA, 2011);
- NMED TPH screening levels (NMED, 2006); and
- NMED Approved HAFB Background Levels (NMED, 2011).

For chemicals with no NMED SSL (2009) or USEPA RSL (2011), SSLs for residential land use were developed per the methodology in the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

Table 8-1(d) presents the comparison of maximum detected concentrations with screening levels for soil. The chemicals with maximum detected concentrations greater than the screening levels were considered to be COPCs. Based on this comparison, two COPCs (arsenic and magnesium) in soil were identified. Table 8-3 summarizes the COPCs in soil and groundwater.

8.2.2 Chemicals of Potential Concern in Groundwater

As described in Section 2.5.2 of this report, and as per the responses to the NMED's comments on the *Final RCRA Facility Investigation Work Plan SWMUs 122 and 123* (NationView, December 2009), the screening levels for groundwater were obtained from the following sources:

- NMWQCC Groundwater Standards for Contaminants (NMAC 20.6.2.3103);
- USEPA National Priority Drinking Water Regulation MCLs (USEPA, 2009);
- TPH Screening Guidelines (NMED, 2006); and
- NMED Approved HAFB Background Levels (NMED, 2011).

Table 8-2(d) presents the comparison of maximum detected concentrations with screening levels for groundwater. The chemicals with maximum detected concentrations greater than the screening levels and the chemicals without screening levels were considered as COPCs. Based on this comparison, 25 COPCs in groundwater were identified. Table 8-3 summarizes the COPCs in soil and groundwater.

8.3 Development of Exposure Model

This section presents the EM for SWMUs 122 and 123. The EM identifies the potential receptors and the exposure pathways under current and anticipated future conditions.

8.3.1 Receptors

SWMUs 122 and 123 are located in an industrial area near the northwestern and northeastern corners of the POL Washrack (as shown on Figure 2-3). Therefore, a commercial/industrial worker is considered a receptor of concern under current conditions.

As discussed in Section 3.9 of this report, residential development at the HAFB is limited and future land use is not expected to differ significantly from current land use, however, conservatively it was assumed that residential development at or near the site could potentially occur. Therefore, a resident is considered a receptor of concern under future conditions. Additionally, in the future, construction activities may occur; hence, a potential future construction worker is also considered a receptor of concern.

8.3.2 Exposure Pathways

Tables 8-4(a), 8-4(b), and 8-4(c) present the EMs for the current commercial/industrial worker, the future resident, and the future construction worker, respectively. The complete pathways for which risks were quantitatively calculated are discussed below.

For the current commercial/industrial worker, outdoor inhalation of vapors from groundwater is considered a complete exposure pathway and was quantitatively evaluated.

For the future resident, indoor inhalation of vapors from groundwater is considered a complete exposure pathway and was quantitatively evaluated.

For the future construction worker, the following complete exposure pathways were quantitatively evaluated:

- Dermal contact with soil;
- Accidental ingestion of soil; and
- Outdoor inhalation of vapors or particulates from soil.

The exposures due to dermal contact with, ingestion of, and outdoor inhalation of vapors or particulates from soil are referred to as the combined pathway from soil. This pathway was evaluated consistent with the *Technical Background Document for Development of Soil Screening Levels, Revision 5.0* (NMED, 2009) and the *Regional Screening Level Summary Table November 2011* (USEPA, 2011).

8.4 Calculation of Representative Concentrations

The representative concentrations for each of the COPCs and each pathway-receptor combination were estimated using the following methodology:

- For the outdoor inhalation of vapors from groundwater by the current commercial/industrial worker, representative concentrations of groundwater were calculated using all the groundwater data collected.
- For the indoor inhalation of vapors from groundwater by the future resident, conservatively the maximum detected concentration was used since the location of future residential buildings is unknown and could be constructed anywhere.
- For the combined pathway from soil for the construction worker, representative concentrations of soil up to the depth of construction, i.e., samples collected between 0 – 10 ft bgs were used.
- Non-detect concentrations were replaced with half the reporting limit for the calculation of representative concentrations.
- Representative concentrations were based on the arithmetic average concentrations.

The representative concentrations of groundwater for the current commercial/industrial worker area presented in Table 8-5(a). The representative concentrations of groundwater for the future resident were obtained from Table 8-2(d). The representative concentrations of soil for the future construction worker are presented in Table 8-5(b).

8.5 Calculation of Risks

This section discusses the methodology used to calculate risk for the complete exposure pathways identified in Section 8.3 of this Report. As per the EM discussed in Section 8.3, the risks were calculated for the current commercial/industrial worker, the future resident, and the future construction worker. Using the representative concentrations calculated in Section 8.4 and the target levels, the carcinogenic and non-carcinogenic risks of each COPC were calculated by taking the ratio of the representative concentration to the target level. The development of target levels is discussed below.

8.5.1 Outdoor Inhalation of Vapors from Groundwater

For this pathway, the target levels were calculated for the current commercial/industrial worker. Since this pathway is not included in the *NMED Technical Background*

Document for the Development of Soil Screening Levels, Revision 5.0 (NMED, 2009) and the *Regional Screening Levels* (USEPA, 2011), the methodology as per the *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (ASTM, 1995) was used to calculate the target levels. The target levels for this pathway were developed only for the volatile chemicals. As per the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009), a chemical was considered volatile if it's Henry's law constant (H) is 1×10^{-5} atmospheric-cubic meters per mole (atm-m^3/mol) (unitless H of 4.2×10^{-4}) or greater and it's molecular weight is 200 grams/mole or less. The calculated target levels for the commercial/industrial worker are presented in Table 8-9(a).

Specifically, the calculation of target levels requires the following:

- Toxicity values;
- Physical and chemical properties;
- Exposure factors; and
- Fate and transport parameters.

Each of these is discussed below.

8.5.1.1 Toxicity Values

The inhalation toxicity of chemicals with carcinogenic and non-carcinogenic adverse health effects is quantified using unit risk factor and reference concentration, respectively. The unit risk factors and reference concentrations for the COPCs are presented in Table 8-6(a) and were obtained from the following sources:

- USEPA, 2011. Regional Screening Levels; and
- Texas Commission on Environmental Quality (TCEQ, 2011). Texas Risk Reduction Program Rule Tables.

Note that the *Regional Screening Levels* (USEPA, 2011) followed the same hierarchy of human health toxicity values as recommended by the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

As per Table 8-6(a), four volatile COPCs in groundwater (sec-butylbenzene, tert-butylbenzene, p-isopropyltoluene, and 2-methylnaphthalene) do not have inhalation toxicity values. Therefore, these COPCs were not further evaluated for this pathway. However, these COPCs were detected in only one or two groundwater samples. Therefore, these chemicals are not likely to be of concern.

8.5.1.2 Physical and Chemical Properties

The physical and chemical properties for COPCs are presented in Table 8-6(a) and were obtained from the following sources:

- NMED, 2009. *Technical Background Document for Development of Soil*

Screening Levels, Revision 5.0;
- USEPA, 2011. Regional Screening Level Summary Table; and
- TCEQ, 2011. Texas Risk Reduction Program Rule Tables.

8.5.1.3 Exposure Factors

The exposure factors for outdoor inhalation of vapors from groundwater by the commercial/industrial worker are presented in Table 8-6(b) and were obtained from the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

8.5.1.4 Fate and Transport Parameters

The fate and transport parameters for outdoor inhalation of vapors from groundwater are presented in Table 8-6(c). The source of the input parameters is also indicated in the table. Site-specific values are discussed below:

- **Depth to groundwater**: As per Section 3.7 of this Report, depth to groundwater at SWMUs 122 and 123 is generally 9.5 to 11.5 ft bgs. An average depth to the water table of 10.5 ft bgs (320 centimeters [cm]) was used.
- **Thickness of capillary fringe**: As per Section 3.5 of this Report, the vadose zone soil type at SWMUs 122 and 123 is silty sand and silty clay. Therefore, a value of 37.5 cm for loam representative of silty sand and silty clay was used as per the *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings* (USEPA, 2004).
- **Dimension of source area parallel to wind direction**: Since the wind direction is variable, the longest dimension of the source area which is a diagonal of the source area was used to represent this parameter. The use of the longer dimension is conservative and results in higher risk calculations. Based on the groundwater data, the area including wells SWMU123-MW3, SWMU122-MW01, SWMU122-MW03 to SWMU122-MW05, and SWMU122-MW09 was identified as the source area. This area is roughly a square with 150 ft sides. Therefore, a diagonal value of 212 ft (6,466 cm) was used for the source dimension along the direction of wind.
- **Geotechnical parameters**: The following geotechnical parameters are required to evaluate outdoor inhalation of vapors from groundwater:
    - Soil total porosity (n); and
    - Volumetric water-filled porosity (θ_{wv}).

  For SWMUs 122 and 123, the site-specific geotechnical parameters were analyzed for two soil samples collected in the vadose zone (see Table 7-2). The soil total porosity and volumetric water-filled porosity can be estimated using the following equations:

$$n = 1 - \frac{\rho_b}{\rho_s}$$

$$\theta_{wv} = \theta_{wg} \times \frac{\rho_b}{\rho_l}$$

where,

n =	Total porosity (cubic centimeters per cubic centimeter [cm^3/cm^3]),
ρ_b =	Soil dry bulk density (grams per cubic centimeter [g/cm^3]),
ρ_s =	Soil specific gravity (unitless),
ρ_l =	Water density (g/cm^3),
θ_{wv} =	Volumetric water-filled porosity (cm^3/cm^3), and
θ_{wg} =	Gravimetric water-filled porosity (grams per gram [g/g]).

However, the site-specific measured soil dry bulk density (1.1 g/cm^3) and soil specific gravity (1.55) are significantly different from the literature values, i.e., soil dry bulk density in range of 1.35 g/cm^3 to 1.69 g/cm^3 (USEPA, 2004) and soil specific gravity of 2.65 (NMED, 2009). Therefore, default values as per the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009) were used.

For the capillary fringe zone, it was assumed that the soil total porosity was the same as for the vadose zone and 90% of the soil total porosity was the volumetric water-filled porosity.

8.5.2 Indoor Inhalation of Vapors from Groundwater

For this pathway, the target levels were calculated for the future resident. Since this pathway is not included in the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009) and the *Regional Screening Levels* (USEPA, 2011), the methodology as per the Johnson & Ettinger (J&E) model presented in the *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings* (USEPA, 2004) was used to calculate the target levels.

The target levels for this pathway were developed only for the volatile chemicals. The calculated target levels for the resident are presented in Tables 8-9(b).

Specifically, the calculation of target levels requires the following:

- Toxicity values;
- Physical and chemical properties;
- Exposure factors;
- Source parameters;
- Geotechnical parameters; and
- Building parameters.

Each of these is discussed below.

8.5.2.1 Toxicity Values

As discussed in Section 8.5.1.1, the inhalation toxicity values for COPCs (i.e., unit risk factor and reference concentration) are presented in Table 8-7(a).

8.5.2.2 Physical and Chemical Properties

The physical and chemical properties for COPCs are presented in Table 8-7(a) and were obtained from the sources listed in Section 8.5.1.2 of this Report. Three parameters such as normal boiling point, critical temperature, and enthalpy of vaporization at the normal boiling point were not necessary since the average soil temperature used is 25 °C which is the same as the reference temperature of Henry's law constant (refer to Section 8.5.2.4 of this Report). The values presented in Table 8-7(a) were used to run the USEPA spreadsheet implementation of the J&E model.

8.5.2.3 Exposure Factors

The exposure factors for indoor inhalation of vapors from groundwater by the resident are presented in Table 8-7(b) and were obtained from the NMED (2009).

8.5.2.4 Source Parameters

The following source parameters are required to evaluate indoor inhalation of vapors:

- **Average soil temperature:** During the July 2009 sampling event, a site-specific average groundwater temperature of 25 °C was measured at SWMUs 122 and 123. Therefore, the average groundwater temperature of 25 °C was considered as the approximate soil temperature at the site.
- **Depth below grade to water table:** As discussed in Section 8.5.1.4 of this Report, an average depth to the water table of 10.5 ft bgs (320 cm) was used for the depth below grade to water table.
- **Thickness of capillary fringe zone:** As discussed in Section 8.5.1.4 of this Report, a value of 37.5 cm was used for the thickness of capillary fringe zone.

These parameters are presented in Table 8-7(c).

8.5.2.5 Geotechnical Parameters

The geotechnical parameters used are presented in Table 8-7(c). Specifically, the following geotechnical parameters are required to evaluate indoor inhalation of vapors from groundwater.

- Soil total porosity (n); and
- Volumetric water-filled porosity (θ_{wv}).

As discussed in Section 8.5.1.4 of this Report, default values as per the *NMED Technical Background Document for the Development of Soil Screening Levels,*

Revision 5.0 (NMED, 2009) were used.

For the capillary fringe zone, it was assumed that the soil total porosity was the same as for the vadose zone and 90% of the soil total porosity was the volumetric water-filled porosity.

8.5.2.6 Building Parameters

The following building parameters are required to evaluate indoor inhalation of vapors:

- Depth below grade to bottom of enclosed space floor;
- Enclosed space floor thickness;
- Enclosed space floor length;
- Enclosed space floor width;
- Enclosed space height;
- Floor-wall seam crack width;
- Indoor air exchange rate; and
- Average vapor flow rate into building.

The building parameter values used and the source are presented in Table 8-7(c).

8.5.3 Combined Pathway from Soil

For this pathway, the target levels are required for arsenic and magnesium for the future construction worker. The target levels were developed as per the methodology in the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009). The calculated target levels for the construction worker are presented in Tables 8-9(c).

Specifically, the calculation of target levels requires the following:

- Toxicity values;
- Physical and chemical properties;
- Exposure factors; and
- Fate and transport parameters.

Each of these is discussed below.

8.5.3.1 Toxicity Values

The toxicity values for the COPCs are presented in Table 8-8(a). As per the table, magnesium does not have toxicity values. However, magnesium is ubiquitous in soil as per the *Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States* (United States Geological Survey [USGS], 1984) and this was confirmed from the soil samples collected at the site, i.e., magnesium was detected in all the soil samples. In addition, magnesium is not necessarily of concern from a

human health standpoint as per the *Risk Assessment Guidance for Superfund (RAGS) Volume I Human Health Evaluation Manual Part A* (USEPA, 1989).

8.5.3.2 Physical and Chemical Properties

The physical and chemical properties for COPCs are presented in Table 8-8(a).

8.5.3.3 Exposure Factors

The exposure factors for combined pathways from soil by the construction worker are presented in Table 8-8(b) and were obtained from the *NMED Technical Background Document for the Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

8.5.3.4 Fate and Transport Parameters

The fate and transport parameters for combined pathways from soil are presented in Table 8-8(c). The source of the input parameters is also indicated in the table.

8.6 Calculation of Cumulative Risks

The risk to human health was calculated for each COPC, for each complete exposure pathway, and for each receptor. The cumulative risk for each receptor, i.e., sum of risks for all chemicals and for all complete exposure pathways, was compared with target risks. The following are the target risks for each receptor:

- For potential carcinogenic health effects, the cumulative individual excess lifetime cancer risk (IELCR) for each receptor of 1×10^{-5}; and
- For potential non-carcinogenic health effects, the cumulative hazard index (HI) for each receptor of 1.0.

These target risks are consistent with the *Technical Background Document for Development of Soil Screening Levels, Revision 5.0* (NMED, 2009).

For SWMUs 122 and 123, the current commercial/industrial worker, the future resident, and the future construction worker are the receptors of concern. The calculated cumulative risks for the current commercial/industrial worker, the future resident, and the future construction worker are presented in Tables 8-9(a), 8-9(b), and 8-9(c), respectively.

The results indicate:

- For the current commercial/industrial worker:
    - The cumulative IELCR for carcinogenic effects is 3.1×10^{-11}, which is below the acceptable target risk of 1×10^{-5}.
    - The cumulative HI for non-carcinogenic effects is 0.00023, which is below the acceptable target risk of 1.0.

- For the future resident:
  - The cumulative IELCR for carcinogenic effects is 6.5×10^{-6}, which is below the acceptable target risk of 1×10^{-5}.
  - The cumulative HI for non-carcinogenic effects is 1.0, which does not exceed the acceptable target risk of 1.0.
- For the future construction worker,
  - The cumulative IELCR for carcinogenic effects is 3.1×10^{-7}, which is below the acceptable target risk of 1×10^{-5}.
  - The cumulative HI for non-carcinogenic effects is 0.071, which is below the acceptable target risk of 1.0.

Based on the above, the current residual concentration of COPCs in soil and groundwater are protective of the current commercial/industrial worker, the future resident, and the future construction worker.

8.7 Uncertainty Analysis

As in any RA, the estimated carcinogenic and non-carcinogenic risks contain several sources of uncertainties. However, the general approach used in this RA has been to use conservative assumptions regarding exposure estimates, so that the estimated carcinogenic and non-carcinogenic risks represent an upper bound estimate of the risk. The following sections present the inherent sources of uncertainty and conservative assumptions used in this RA.

8.7.1 Inherent Sources of Uncertainty

The RA process is designed to provide a conservative estimate or evaluation of risks to human health. However, some degree of uncertainty is inherent to the process. Sources of uncertainty typically relate to seven areas:

- Site characterization;
- COPCs;
- Representative concentration;
- Exposure evaluation;
- Toxicity values;
- Physical and chemical properties; and
- Fate and transport parameters and models.

Inherent sources of uncertainty relating to the site characterization include:

- Field sampling location bias (sample locations were biased toward areas of highest contamination) is likely to cause an overestimation of risks.
- No consideration for source depletion, natural degradation, or attenuation of

chemicals over time is considered. This is a conservative approach since the consideration of source depletion, natural degradation, or attenuation in the future would result in lower exposure concentration to future receptors of concern.

Inherent sources of uncertainty relating to the COPCs include:

- Consideration of 19 constituents in groundwater without groundwater screening levels as COPCs which is a conservative approach since the consideration of screening levels may have eliminated these constituents.

Inherent sources of uncertainty relating to the representative concentrations include:

- Use of current concentrations for the future resident and the future construction worker. This overestimates the future risks since the concentrations typically decrease over time due to natural attenuation processes.
- Use of current maximum concentrations for the future resident. The use of maximum concentration is very conservative and overestimates the future risks because (i) the calculation of target levels assumes long-term exposures; and (ii) the models used to develop target levels assume average concentration over the exposure domain and not a single point concentration.

Inherent sources of uncertainty relating to the exposure evaluation include:

- Assumption of frequent, or routine, exposure over prolonged durations, for example, the assumption that a resident stays at the same location for 30 years. This would likely overestimate the risks.
- Assumption that some pathways are negligible in comparison to others (e.g., outdoor inhalation of vapors from groundwater by future resident was not quantitatively evaluated since indoor inhalation of vapors from groundwater was evaluated). This would likely underestimate the cumulative risk.

Inherent sources of uncertainty relating to the toxicity values include:

- Use of reference dose and slope factor derived by conservative methods. For example, animal testing is typically performed at very high doses and the information is used to extrapolate to humans. To compensate for lack of sufficient and detailed information regarding the human toxicity of these chemicals, USEPA typically makes substantial conservative assumptions that result in very conservative quantitative toxicity values (slope factor and reference dose) of these COPCs.
- Chemicals without toxicity values. For example, indoor inhalation of vapors from groundwater by the resident was not evaluated for sec-butylbenzene, tert-butylbenzene, p-isopropyltoluene, and 2-methylnaphthalane. However, these chemicals were detected only in one or two groundwater samples. Therefore,

the underestimation of risks may not be significant.

- The above first and second sources associated with toxicity values may not estimate the true health effects of COPCs. However, typically the toxicity values are based on very conservative assumptions that result in an overestimate of the risks.

Inherent sources of uncertainty relating to the physical and chemical properties include:

- Derivation of physical and chemical properties based on a single chemical which does not consider the effects of the presence of multiple chemicals. This would overestimate the risks because the presence of multiple chemicals reduces volatility and solubility.

Inherent sources of uncertainty relating to the fate and transport parameters and models include:

- Assumption of an infinite non-depleting source which is conservative.

8.7.2 Overall Impact of Uncertainties

As discussed above, there are numerous sources of uncertainty in the parameters used to calculate the potential risks. The above discussion indicates that the risks have been estimated using generally conservative assumptions for most of sources; therefore, overall the risks have been overestimated.

9 CONCLUSIONS AND RECOMMENDATIONS

Approximately 1,882.5 cubic yards of PCS was excavated and remediated from three SWMU 123 PCS excavations which were conducted between 1995 and 2006. In 1995 and 1997, 50 CY and 132.5 CY of PCS were transported offsite to the Rhino Environmental Services, Inc., land farm facility located north of Newman, New Mexico. In addition, 1,700 CY of PCS was transported to the permitted HAFB FT-31 land farm for treatment in 2008. The confirmation soil samples collected from each excavation provide documentation of the complete removal of soil containing total petroleum hydrocarbons (TPH-GRO, -DRO, and –ORO), VOCs, SVOCs, PCBs, and/or TAL metals in excess of the NMED SSLs (NMED, 2009) and/or the TPH Screening Guidelines (NMED, 2006). Furthermore, a comprehensive human health risk assessment for potential future residents, current commercial/industrial workers, and future construction workers was performed using the soil and groundwater data and is presented in Section 8 of this report.

The risk to human health was calculated for each COPC, for each complete exposure pathway, and for each receptor. The cumulative risk for each receptor (i.e., the sum of risks for all chemicals and for all complete exposure pathways) is compared with target risks. The cumulative risk for each potential receptor was found to be less than the target risk level for each potential receptor. Therefore, the current residual concentration of COPCs in soil and groundwater at SWMUs 122 and 123 are protective of current commercial/industrial workers, future residents (adults and children), and future construction workers.

Based upon the soil and groundwater laboratory analytical results, documentation of excavation and disposal provided, and the site specific human health risk-based evaluation; No Further Action is recommended for the SWMUs 122 and 123 (Building 702 and Building 704 Waste Oil Tanks) at Holloman Air Force Base, NM. NFA for SWMUs 122 and 123 is based upon NMED Closure Criterion #5 which states:

> *"The site was characterized or remediated in accordance with applicable state and/or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use."*

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TABLES

FIGURES

ATTACHMENT A
NMED CORRESPONDENCE

ATTACHMENT B
VARIANCE FORM

APPENDIX A

HISTORICAL DATA FROM PREVIOUS INVESTIGATIONS

Appendix A-1

Portions of the *RCRA Facility Assessment, Preliminary Review/Visual Site Inspection Report*

A.T. Kearney, Inc. and DPRA, Inc., September 1988

Appendix A-2

Portions of the *Phase I RCRA Facility Investigation Report, Table 2 Solid Waste Management Units, Volume I*

Radian Corporation, October 1994

Appendix A-3

Portions of the *Closure Report For Remediation of POL – Contaminated Sites and Oil/Water Separator Removals, Holloman Air Force Base, New Mexico, July – November 1995*

EBASCO Services, Inc. and Groundwater Technology Government Services, Inc., November 1995

Appendix A-4

Portions of the *Additional Characterization of POL-Contaminated Sites SWMU-3, SWMU-8, SWMU-36, SWMU-123 and OT-44, Holloman Air Force Base, New Mexico*

Groundwater Technology Government Services, Inc., February 1996

Appendix A-5

Portions of the *Final Closure Report Addendum For Phase II Remediation of POL-Contaminated Sites and Oil/Water Separator and Waste Oil Tank Removals, Holloman Air Force Base, New Mexico*

Foster Wheeler Environmental Corporation, December 1997

Appendix A-6

Portions of the *Results of Additional Soil Sampling for Remediation of the POL-Contaminated SWMU 123, at Holloman AFB, New Mexico*

Foster Wheeler Environmental Corporation, April 1999

Appendix A-7

Portions of the *Site Investigation Report SWMU 123, Holloman Air Force Base, New Mexico*

Bhate Environmental Associates, Inc., November 2004

Appendix A-8

Figures, Tables, and Analytical Data Packages from the SWMU 123 Voluntary Corrective Measures (PCS Excavation)

Bhate Environmental Associates, Inc., 2005-2006

(Note: Analytical Data Packages are Provided on CD only)

APPENDIX B
SOIL BORING LOGS

APPENDIX C
MONITORING WELL CONSTRUCTION DIAGRAMS

APPENDIX D
MONITORING WELL DEVELOPMENT FORMS

APPENDIX E
MONITORING WELL SAMPLE COLLECTION FORMS

APPENDIX F
ANALYTICAL DATA PACKAGES
(PROVIDED ON ENCLOSED CD)

APPENDIX G
DATA VALIDATION REPORTS

Table 8-9(c)
Summary of Calculated Risk for Future Construction Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPCs	Combined Pathway from Soil				
	Represenatative Concentration (mg/kg)	Target Level (mg/kg)		Risk	
		Carcinogenic	Non-carcinogenic	Carcinogenic	Non-carcinogenic
Arsenic	3.91	1.22E+02	5.28E+01	3.2E-07	7.4E-02
Magnesium	8,653	NA	NA	N/A	N/A
		Cumulative Risks		**3.2E-07**	**7.4E-02**

Notes:
COPCs = Chemicals of potential concern
mg/kg = Milligrams per kilogram
N/A = Not applicable
NA = Not available

Table 8-9(b)
Summary of Calculated Risk for Future Resident
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPCs	Indoor Inhalation of Vapors from Groundwater				
	Representative Concentration (mg/L)	Target Level (mg/L)		Carcinogenic Risk	Non-carcinogenic Risk
		Carcinogenic	Non-carcinogenic		
Acetone	0.0855	NA	5.12E+04	N/A	1.7E-06
Acrolein	0.0122	NA	1.53E-02	N/A	7.9E-01
Acrylonitrile	0.0360	5.51E-02	3.21E+00	6.53E-06	1.1E-02
Carbon disulfide	0.0056	NA	3.76E+01	N/A	1.5E-04
Hexane	0.0030	NA	5.75E-01	N/A	5.2E-03
Isopropylbenzene	0.0148	NA	4.54E+01	N/A	3.3E-04
Methyl ethyl ketone	0.0330	NA	7.84E+03	N/A	4.2E-06
n-Propylbenzene	0.0154	NA	NOC	N/A	N/A
1,2,4-Trimethylbenzene	0.1250	NA	1.20E+00	N/A	1.0E-01
1,3,5-Trimethylbenzene	0.0568	NA	8.19E-01	N/A	6.9E-02
Xylenes	0.7250	NA	1.23E+01	N/A	5.9E-02
2,4-Dimethylphenol	0.0068	Not Volatile	Not Volatile	N/A	N/A
Benzyl alcohol	0.0010	Not Volatile	Not Volatile	N/A	N/A
Di-n-butyl phthalate	0.0021	Not Volatile	Not Volatile	N/A	N/A
Diethyl phthalate	0.0058	Not Volatile	Not Volatile	N/A	N/A
bis(2-Ethylhexyl)phthalate	0.0029	Not Volatile	Not Volatile	N/A	N/A
Arsenic	0.0290	Not Volatile	Not Volatile	N/A	N/A
Iron	13.60	Not Volatile	Not Volatile	N/A	N/A
Manganese	2.4900	Not Volatile	Not Volatile	N/A	N/A
Thallium	0.0042	Not Volatile	Not Volatile	N/A	N/A
Vanadium	0.1430	Not Volatile	Not Volatile	N/A	N/A
		Cumulative Risks		**6.5E-06**	**1.0E+00**

Notes:
COPCs = Chemicals of potential concern
mg/L = Milligrams per liter
N/A = Not applicable
NA = Not available
NOC = Not of concern since calculated target concentration exceeds water solubility

Table 8-9(a)
Summary of Calculated Risk for Current Commercial/Industrial Worker
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPCs	Outdoor Inhalation of Vapors from Groundwater				
	Representative Concentration (mg/L)	Target Level (mg/L)		Risk	
		Carcinogenic	Non-carcinogenic	Carcinogenic	Non-carcinogenic
Acetone	0.0175	NA	NOC	N/A	N/A
Acrolein	0.0128	NA	5.51E+01	N/A	2.3E-04
Acrylonitrile	0.0071	2.30E+03	1.12E+04	3.08E-11	6.3E-07
Carbon disulfide	0.0013	NA	NOC	N/A	N/A
Hexane	0.0011	NA	NOC	N/A	N/A
Isopropylbenzene	0.0015	NA	NOC	N/A	N/A
Methyl ethyl ketone	0.0048	NA	NOC	N/A	N/A
n-Propylbenzene	0.0015	NA	NOC	N/A	N/A
1,2,4-Trimethylbenzene	0.0093	NA	NOC	N/A	N/A
1,3,5-Trimethylbenzene	0.0047	NA	NOC	N/A	N/A
Xylenes	0.0497	NA	NOC	N/A	N/A
2,4-Dimethylphenol	0.0028	Not Volatile	Not Volatile	N/A	N/A
Benzyl Alcohol	0.0024	Not Volatile	Not Volatile	N/A	N/A
Di-n-butyl phthalate	0.0024	Not Volatile	Not Volatile	N/A	N/A
Diethyl phthalate	0.0029	Not Volatile	Not Volatile	N/A	N/A
bis(2-Ethylhexyl)phthalate	0.0025	Not Volatile	Not Volatile	N/A	N/A
Arsenic	0.0134	Not Volatile	Not Volatile	N/A	N/A
Iron	1.31	Not Volatile	Not Volatile	N/A	N/A
Manganese	0.6104	Not Volatile	Not Volatile	N/A	N/A
Thallium	0.0079	Not Volatile	Not Volatile	N/A	N/A
Vanadium	0.0485	Not Volatile	Not Volatile	N/A	N/A
		Cumulative Risks		**3.1E-11**	**2.3E-04**

Notes:
COPCs = Chemicals of potential concern
mg/L = Milligrams per liter
N/A = Not applicable
NA = Not available
NOC = Not of concern since calculated target concentration exceeds water solubility

Table 8-8(c)
Fate and Transport Parameters for Combined Pathway from Soil
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Value Used	Source
Inverse of the mean concentration at the center of a 0.5-acre - square source for volatilization factor	Q/C_{vol}	g/m^2-s per kg/m^3	68.18	NMED, 2009
Dry soil bulk density	ρ_b	g/cm^3	1.5	NMED, 2009
Total soil porosity	n	unitless	0.43	NMED, 2009
Water-filled soil porosity	θ_{wv}	cm^3/cm^3	0.26	NMED, 2009
Inverse of the mean concentration at the center of a 0.5-acre - square source for particulate emission factor	Q/C_{cw}	g/m^2-s per kg/m^3	23.02	NMED, 2009
Dispersion correction factor	F_D	Unitless	0.185	NMED, 2009
Total time over which construction occurs	T	s	7,200,000	NMED, 2009
Surface area of road segment	A_R	m^2	274.2	NMED, 2009
Mean vehicle weight	W	tons	8	NMED, 2009
Number of days with at least 0.01 inches of precipitation	P	days/year	60	NMED, 2009
Sum of fleet vehicle kilometers traveled during exposure duration	$\sum$ VKT	km	168.75	NMED, 2009

Notes:
NMED = New Mexico Environment Department
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
cm^3/cm^3 = Cubic centimeters per cubic centimeter
kg/m^3 = Kilograms per cubic meter
g/cm^3 = Grams per cubic centimeter
g/m^2-s = Grams per square meter-second
km = Kilometers
m^2 = Square meters
s = Seconds

Table 8-8(b)
Exposure Factors for Combined Pathway from Soil
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Values Used	Source
Averaging time for carcinogen	ATc	days	25,550	NMED, 2009
Averaging time for non-carcinogen	ATnc	days	ED*365	NMED, 2009
Body weight for adult	BWa	kg	70	NMED, 2009
Exposure duration (ED) for construction worker	ED_{CW}	years	1	NMED, 2009
Exposure frequency for construction worker	EF_{CW}	days/year	250	NMED, 2009
Exposure time for construction worker	ET_{CW}	Unitless	0.33	NMED, 2009
Soil ingestion rate for construction worker	IRS_{CW}	mg/day	330	NMED, 2009
Dermal surface area for construction worker	SA_{CW}	cm^2/day	3300	NMED, 2009
Soil adherence factor for construction worker	AF_{CW}	mg/cm^2	0.3	NMED, 2009

Notes:
NMED = New Mexico Environment Department
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
cm^2/day = Square centimeters per day
kg = Kilograms
mg/cm^2 = Milligrams per square centimeter
mg/day = Milligrams per day

Table 8-8(a)
Toxicity Values and Physical/Chemical Parameters for Combined Pathway from Soil
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

COPC	Oral Spole Factor	Units Risk Factor	Oral Reference Dose	Reference Concentration	Skim Absorption Factor	Water Solubility	Henry's Law Constant	Soil Water Partition Coefficient	Diffusivity		Molecular Weight
									in Air	in Water	
	SF_o	URF	RfD_o	RfC	ABS	S	H	K_d	D_a	D_w	MW
	(kg-day/mg)	$(\mu g/m^3)^{-1}$	(mg/kg-day)	(mg/m^3)	(unitless)	(mg/L)	(L-water/L-air)	(cm^3/g)	(cm^2/s)	(cm^2/s)	(g/g-mol)
Arsenic	*1.50E+00*	*4.30E-03*	*3.00E-04*	*1.50E-05*	*3.00E-02*	NA	NA	2.90E+01	NA	NA	7.49E+01
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
NA = Not available
Value in normal font obtained from Technical Background Document for Development of Soil Screening Levels, Revision 5.0 (NMED, 2009)
Value in italics obtained from the Regional Screening Level Tables (USEPA, 2011)
$\mu g/m^3$ = Micrograms per cubic meter
cm^2/s = Square centimeters per second
cm^3/g = Cubic centimeters per gram
g/g-mol = Grams per gram-mole

Table 8-7(c)
Media Specific Parameters for Indoor Inhalation of Vapors from Groundwater (J&E Model)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Value Used	Source
Source Parameters				
Average soil temperature	T_s	°C	25	Site-specific
Depth below grade to water table	L_{WT}	cm	320	Site-specific
Thickness of capillary fringe zone	L_{cz}	cm	37.5	USEPA, 2004
Geotechnical Parameters				
Soil total porosity in the vadose zone and the capillary fringe zone	n	unitless	0.43	NMED, 2009
Soil water-filled porosity in the vadose zone	θ_w	cm^3/cm^3	0.26	NMED, 2009
Soil water-filled porosity in the capillary fringe zone	θ_{wcz}	cm^3/cm^3	0.39	Professional Judgment
Building Parameters for Future Resident				
Depth below grade to bottom of enclosed space floor	L_F	cm	15	USEPA, 2004
Enclosed space floor thickness	L_{crack}	cm	10	USEPA, 2004
Enclosed space floor length	L_B	cm	1,000	USEPA, 2004
Enclosed space floor width	W_B	cm	1,000	USEPA, 2004
Enclosed space height	H_B	cm	244	USEPA, 2004
Floor-wall seam crack width	w	cm	0.1	USEPA, 2004
Indoor air exchange rate	ER	1/hr	0.25	USEPA, 2004
Average vapor flow rate into building	Q_{soil}	L/min	5	USEPA, 2004

Notes:
NMED = New Mexico Environment Department
USEPA = United States Environmental Protection Agency
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
USEPA, 2004. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings
˚C = Degrees celcius
cm = Centimeters
cm^3/cm^3 = Cubic centimeters per cubic centimeter
1/hr = One per hour
L/min = Liters per minute

Table 8-7(b)
Exposure Factors Used for Indoor Inhalation of Vapors from Groundwater (J&E Model)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Values Used	Source
Averaging time for carcinogen	ATc	days	25,550	NMED, 2009
Averaging time for non-carcinogen	ATnc	days	ED*365	NMED, 2009
Exposure duration (ED) for resident	ED	years	30	NMED, 2009
Exposure frequency for resident	EF	days/year	350	NMED, 2009

Notes:
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
NMED = New Mexico Environment Department

Table 8-7(a)
Toxicity Values and Physical and Chemical Parameters for Indoor Inhalation of Vapors from Groundwater (J&E Model)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Chemical	Volatility	Molecular Weight MW (g/mol)	Organic Carbon Partition Coefficient K_{oc} (cm^3/g)	Soil Water Partition Coefficient K_d (cm^3/g)	Diffusivity in Air D_a (cm^2/s)	Diffusivity in Water D_w (cm^2/s)	Water Solubility S (mg/L)	Henry's Law Constant H' (unitless)	Henry's Law Constant H (atm-m^3/mol)	Unit Risk Factor URF ($\mu g/m^3)^{-1}$	Reference Cncentration RfC (mg/m^3)
Acetone	Volatile	5.81E+01	1.98E+00	NA	1.20E-01	1.10E-05	1.00E+06	1.60E-03	3.90E-05	NA	*3.10E+01*
Acrolein	Volatile	5.61E+01	2.76E+00	NA	1.10E-01	1.20E-05	2.12E+05	5.00E-03	1.22E-04	NA	*2.00E-05*
Acrylonitrile	Volatile	4.11E+01	4.50E+00	NA	1.30E-01	1.40E-05	1.00E+06	1.40E-03	3.41E-05	*6.80E-05*	*2.00E-03*
sec-Butylbenzene	Volatile	***1.34E+02***	***2.09E+03***	NA	***5.75E-02***	***6.75E-06***	***1.81E+01***	***5.07E-01***	***1.24E-02***	NA	NA
tert-Butylbenzene	Volatile	***1.34E+02***	***2.45E+03***	NA	***5.84E-02***	***6.76E-06***	***1.51E+01***	***8.56E-01***	***2.09E-02***	NA	NA
Carbon disulfide	Volatile	7.60E+01	1.00E+00	NA	1.10E-01	1.30E-05	1.18E+03	5.90E-01	1.44E-02	NA	*7.00E-01*
Hexane	Volatile	8.60E+01	1.49E+02	NA	7.30E-02	8.20E-06	9.50E+00	7.40E+01	1.80E+00	NA	*7.00E-01*
Isopropylbenzene	Volatile	1.20E+02	8.17E+02	NA	6.00E-02	7.90E-06	6.13E+01	4.70E-01	1.15E-02	NA	*4.00E-01*
p-Isopropyltoluene	Volatile	***1.34E+02***	***2.29E+03***	NA	***5.72E-02***	***6.73E-06***	***1.71E+01***	***4.66E-01***	***1.14E-02***	NA	NA
Methyl ethyl ketone	Volatile	7.20E+01	3.83E+00	NA	9.10E-02	1.00E-05	2.23E+05	2.30E-03	5.61E-05	NA	*5.00E+00*
n-Propylbenzene	Volatile	*1.20E+02*	*8.13E+02*	NA	*6.02E-02*	*7.83E-06*	*5.22E+01*	*4.29E-01*	*1.05E-02*	NA	*1.00E+00*
1,2,4-Trimethylbenzene	Volatile	*1.20E+02*	*6.14E+02*	NA	*6.07E-02*	*7.92E-06*	*5.70E+01*	*2.52E-01*	*6.15E-03*	NA	*7.00E-03*
1,3,5-Trimethylbenzene	Volatile	*1.20E+02*	*6.02E+02*	NA	*6.02E-02*	*7.84E-06*	*4.82E+01*	*3.59E-01*	*8.76E-03*	NA	***6.00E-03***
Xylenes	Volatile	1.06E+02	4.43E+02	NA	8.50E-02	9.90E-06	1.06E+02	2.70E-01	6.59E-03	NA	*1.00E-01*
2,4-Dimethylphenol	Not Volatile	*1.22E+02*	*4.92E+02*	NA	*6.22E-02*	*8.31E-06*	*7.87E+03*	*3.89E-05*	*9.49E-07*	NA	NA
Benzyl Alcohol	Not Volatile	*1.08E+02*	*2.15E+01*	NA	*7.31E-02*	*9.37E-06*	*4.29E+04*	*1.38E-05*	*3.37E-07*	NA	NA
Di-n-butyl phthalate	Not Volatile	2.78E+02	1.46E+03	NA	*2.14E-02*	*5.33E-06*	1.12E+01	7.40E-05	1.80E-06	NA	NA
Diethyl phthalate	Not Volatile	2.22E+02	1.26E+02	NA	*2.61E-02*	*6.72E-06*	1.08E+03	2.50E-05	6.10E-07	NA	NA
bis(2-Ethylhexyl)phthalate	Not Volatile	3.91E+02	1.65E+05	NA	*1.73E-02*	*4.18E-06*	2.70E-01	1.10E-05	2.68E-07	*2.40E-06*	NA
2-Methylnaphthalene	Volatile	*1.42E+02*	*2.48E+03*	NA	*5.24E-02*	*7.78E-06*	*2.46E+01*	*2.12E-02*	*5.17E-04*	NA	NA
Arsenic	Not Volatile	7.49E+01	NA	2.90E+01	NA	NA	NA	NA	NA	*4.30E-03*	*1.50E-05*
Iron	Not Volatile	5.58E+01	NA	2.50E+01	NA	NA	NA	1.00E+00	2.44E-02	NA	NA
Manganese	Not Volatile	5.49E+01	NA	2.15E-02	NA	NA	NA	NA	NA	NA	*5.00E-05*
Thallium	Not Volatile	5.49E+01	NA	2.15E+02	NA	NA	NA	NA	NA	NA	NA
Vanadium	Not Volatile	5.09E+01	NA	1.00E+03	NA	NA	NA	NA	NA	NA	***1.00E-04***

Notes:
NA = Not available
Value in normal font obtained from Technical Background Document for Development of Soil Screening Levels, Revision 5.0 (NMED, 2009)
Value in italics obtained from the Regional Screening Level Summary Table (USEPA, 2011)
Value in bold and italics obtained from the Texas Risk Reduction Program Rule Tables (TCEQ, 2011)
cm^3/g = Cubic centimeters per gram
cm^2/s = Square centimeters per second
mg/L = Milligrams per liter
atm-m^3/mol = Atmospheric-cubic meters per mole
g/mol = Grams per mole
mg/m^3 = Milligrams per cubic meter
$\mu g/m^3$ = Micrograms per cubic meter

Table 8-6(c)
Fate and Transport Parameters for Outdoor Inhalation of Vapors from Groundwater
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Parameter	Symbol	Unit	Value Used	Source
Mean annual wind speed	U_m	m/s	4.02	NMED, 2009
Breathing zone height	δ_a	cm	200	ASTM, 1995
Depth to groundwater	L_{GW}	cm	320	Site-specific
Thickness of capillary fringe	h_{cap}	cm	37.5	USEPA, 2004
Dimension of source area parallel to wind direction	W_{ga}	cm	6,466	Site-specific
Soil total porosity in vadose zone	n	unitless	0.43	NMED, 2009
Soil water-filled porosity in vadose zone	θ_{wv}	cm^3/cm^3	0.26	NMED, 2009
Soil total porosity in capillary fringe	n_{cap}	unitless	0.43	Professional Judgment
Soil water-filled porosity in capillary fringe	θ_{wcap}	cm^3/cm^3	0.39	Professional Judgment

Notes:
ASTM = American Society for Testing and Materials
NMED = New Mexico Environment Department
ASTM, 1995. Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites
NMED, 2009. Technical Background Document for Development of Soil Screening Levels, Revision 5.0
USEPA, 2004. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings
cm = Centimeters
cm^3/cm^3 = Cubic centimeters per cubic centimeter
g/cm^3 = Grams per cubic centimeter
m/s = Meters per second

Table 7-3
Groundwater Analytical Results (July 2009)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Client Sample Identification:	Groundwater Screening Levels		Basewide Background Levels		SWMU123-MW3			SWMU123-MW3-A			SWMU123-MW4		
Lab Sample Identification:	NMWQCC[1]	USEPA MCL [2]	NMED Approved Background Levels (Dissolved Constituents)[3]	Dissolved Metals in Groundwater UTL [4]	F66528-1			F66528-2			F66528-3		
Date Sampled:					7/7/2009			7/7/2009			7/8/2009		
Analyte					Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1
Volatile Organic Compounds (8260B)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L		
Acetone	NV	NV	NV	NV	10	U		10	U		10	U	
Acrolein	NV	NV	NV	NV	14.3	J		5.0	U		5.0	U	
Acrylonitrile	NV	NV	NV	NV	2.0	U		2.0	U		2.0	U	
Benzene	10	5	NV	NV	0.40	U		0.40	U		0.40	U	
sec-Butylbenzene	NV	NV	NV	NV	0.25	J		0.25	U		0.25	U	
tert-Butylbenzene	NV	NV	NV	NV	0.85	J		0.84	J		0.32	U	
Chloroform	100	NV	NV	NV	0.28	U		0.28	U		0.67	J	
Carbon disulfide	NV	NV	NV	NV	0.40	U		0.40	U		0.40	U	
Ethylbenzene	750	700	NV	NV	0.43	U		0.43	U		0.43	U	
Hexane	NV	NV	NV	NV	0.50	U		0.50	U		0.50	U	
Isopropylbenzene	NV	NV	NV	NV	0.50	J		0.48	J		0.20	U	
p-Isopropyltoluene	NV	NV	NV	NV	0.32	U		0.32	U		0.32	U	
Methylene chloride	100	5	NV	NV	1.0	U		1.0	U		1.0	U	
Methyl ethyl ketone	NV	NV	NV	NV	2.0	U		2.0	U		2.0	U	
Naphthalene	30	NV	NV	NV	1.0	U		1.0	U		1.0	U	
n-Propylbenzene	NV	NV	NV	NV	0.25	U		0.25	U		0.25	U	
1,2,4-Trimethylbenzene	NV	NV	NV	NV	0.22	U		0.22	U		0.22	U	
1,3,5-Trimethylbenzene	NV	NV	NV	NV	0.20	U		0.20	U		0.20	U	
Toluene	750	1,000	NV	NV	0.35	U		0.35	U		0.35	U	
m,p-Xylene	620 [11]	10,000 [12]	NV	NV	0.78	U		0.78	U		0.78	U	
o-Xylene	620 [11]	10,000 [12]	NV	NV	0.37	U		0.37	U		0.37	U	
Semi-Volatile Organic Compounds (8270C)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L		
2,4-Dimethylphenol	NV	NV	NV	NV	1.3	U		1.2	U		1.2	U	
Benzyl Alcohol	NV	NV	NV	NV	1.0	U		1.0	U		1.0	U	
Di-n-butyl phthalate	NV	NV	NV	NV	1.0	U		1.0	U		1.0	U	
Diethyl phthalate	NV	NV	NV	NV	2.1	U		2.1	U		2.0	U	
bis(2-Ethylhexyl)phthalate	NV	NV	NV	NV	2.9	J		2.1	U		2.0	U	
2-Methylnaphthalene	NV	NV	NV	NV	1.0	U		1.0	U		1.0	U	
Naphthalene	NV	NV	NV	NV	1.0	U		1.0	U		1.0	U	
Total Petroleum Hydrocarbons (8015 M)	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L			mg/L		
Gasoline Range Organics (C6-C10)	30.4 [6]	NV	NV	NV	0.0772	J		0.0823	J		0.050	U	
Diesel Range Organics (C10-C22)	30.4 [6]	NV	NV	NV	**37.0**		J	0.548		J	0.10	U	
Oil Range Organics (>C22-C36)	30.4 [6]	NV	NV	NV	4.0	U		0.149	J		0.10	U	
PCBs (8082)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L		
All PCBs	1	0.5	NV	NV	ND			ND			ND		
TAL Metals Analysis (6010B / 7470A)	µg/L	µg/L	µg/L	µg/L	µg/L			µg/L			µg/L		
Aluminum	5,000	50 [7]	54	54	55	U		55	U		55	U	
Arsenic	100	10	10	28.53	27	U		27	U		**29.0**	J	
Barium	1,000	2,000	30.2	30.13	25	U		25	U		25	U	
Calcium	NV	NV	1,151,302	1,151,301.20	572,000			638,000			633,000		
Chromium	50	100	2.5	2.5	10	U		10	U		10	U	
Cobalt	50	NV	2.6	2.6	5.0	U		5.0	U		5.0	U	
Copper	1,000	1,300	22	57.46	25	U		25	U		25	U	
Iron	1,000	300 [7]	65.6	65.56	120	U		120	U		2,400	U	
Lead	50	15	9	9	10	U		10	U		10	U	
Magnesium	NV	NV	3,630,927	3,630,926.70	135,000			150,000			413,000		
Manganese	200	50 [7]	50	118.65	**569**			**666**			5.0	U	
Nickel	200	NV	15.9	15.89	12	U		12	U		12	U	
Potassium	NV	NV	120,480	120,479.98	10,500	J	J	11,600	J	J	38,700	J	J
Selenium	50	50	25.3	25.26	17	U		17	U		26.5	J	
Silver	50	100 [7]	10	10	7.0	U		7.0	U		7.0	U	
Sodium	NV	NV	19,972,499	19,972,499.00	114,000			128,000			758,000		
Thallium	NV	2	2	15	18	U		18	U		18	U	
Vanadium	NV	NV	73.8	73.73	4.5	U		4.5	U		85.7	J	
Zinc	10,000	5,000 [7]	23	56.28	37	U		37	U		37	U	
General Chemistry (2540B)	mg/L	mg/L	mg/L	mg/L	mg/L			mg/L			mg/L		
Solids, Total Dissolved	1,000	500 [7]	NV	65,956.58 [10]	**4,570**		J	**3,830**		J	**5,190**		J

Client Sample Identification:	SWMU 123-MW5			SWMU 123-MW5 [8]			SWMU 122-MW01			SWMU 122-MW02		
Lab Sample Identification:	F66494-1			F66494-1R			F66653-5			F66653-2		
Date Sampled:	7/7/2009			7/7/2009			7/13/2009			7/14/2009		
Analyte	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1
Volatile Organic Compounds (8260B)	µg/L			µg/L			µg/L			µg/L		
Acetone	10	U		NA			12.8	J	J	10	U	
Acrolein	5.0	U		NA			5.0	U	UJ	5.0	U	
Acrylonitrile	2.0	U		NA			2.0	U	UJ	2.0	U	
Benzene	0.40	U		NA			0.40	U	UJ	0.40	U	
sec-Butylbenzene	0.25	U		NA			0.25	U	UJ	0.25	U	
tert-Butylbenzene	0.32	U		NA			0.32	U	UJ	0.32	U	
Chloroform	0.28	U		NA			1.6		J	0.28	U	
Carbon disulfide	0.40	U		NA			0.40	U	UJ	0.40	U	
Ethylbenzene	0.43	U		NA			0.43	U	UJ	0.43	U	
Hexane	0.50	U		NA			0.50	U	UJ	0.50	U	
Isopropylbenzene	0.20	U		NA			0.20	U	UJ	0.20	U	
p-Isopropyltoluene	0.32	U		NA			0.32	U	UJ	0.32	U	
Methylene chloride	1.0	U		NA			1.0	U	UJ	1.2	J	
Methyl ethyl ketone	2.0	U		NA			2.0	U	UJ	2.0	U	
Naphthalene	1.0	U		NA			1.0	U	UJ	1.0	U	
n-Propylbenzene	0.25	U		NA			0.25	U	UJ	0.25	U	
1,2,4-Trimethylbenzene	0.22	U		NA			0.22	U	UJ	0.22	U	
1,3,5-Trimethylbenzene	0.20	U		NA			0.20	U	UJ	0.20	U	
Toluene	0.35	U		NA			0.35	U	UJ	0.35	U	
m,p-Xylene	0.78	U		NA			0.78	U	UJ	0.78	U	
o-Xylene	0.37	U		NA			0.37	U	UJ	0.37	U	
Semi-Volatile Organic Compounds (8270C)	µg/L			µg/L			µg/L			µg/L		
2,4-Dimethylphenol	1.2	U		NA			1.2	U		1.2	U	
Benzyl Alcohol	1.0	U		NA			1.0	U		1.0	U	
Di-n-butyl phthalate	1.0	U		NA			1.0	U		1.0	U	
Diethyl phthalate	2.0	U		NA			2.1	J		2.0	U	
bis(2-Ethylhexyl)phthalate	2.0	U		NA			2.0	U		2.0	U	
2-Methylnaphthalene	1.0	U		NA			1.0	U		1.0	U	
Naphthalene	1.0	U		NA			1.0	U		1.0	U	
Total Petroleum Hydrocarbons (8015 M)	mg/L			mg/L			mg/L			mg/L		
Gasoline Range Organics (C6-C10)	NA			0.050	U	UJ	0.050	U		0.050	U	
Diesel Range Organics (C10-C22)	0.10	U		NA			0.096	U		0.096	U	
Oil Range Organics (>C22-C36)	0.10	U		NA			0.096	U		0.096	U	
PCBs (8082)	µg/L			µg/L			µg/L			µg/L		
All PCBs	ND			NA			ND			ND		
TAL Metals Analysis (6010B / 7470A)	µg/L			µg/L			µg/L			µg/L		
Aluminum	11	U		NA			25.8	J		11	U	
Arsenic	**17.3**			NA			**10.7**		J	**12.9**		J
Barium	15.0	J		NA			27.5	J		17.5	J	
Calcium	491,000		J	NA			468,000		J	485,000		J
Chromium	2.0	U		NA			2.0	U		2.0	U	
Cobalt	1.0	U		NA			1.6	J	J	1.0	U	UJ
Copper	5.0	U		NA			5.0	U		5.0	U	
Iron	23	U		NA			**784**			23	U	
Lead	2.0	U		NA			2.0	U		2.0	U	
Magnesium	323,000			NA			244,000			261,000		
Manganese	1.0	U		NA			**472**			**80.1**		
Nickel	2.3	J		NA			8.5	J		4.1	J	
Potassium	29,200		J	NA			29,600		J	33,300		J
Selenium	28.8			NA			15.5			15.7		
Silver	1.4	U		NA			1.4	U		1.4	U	
Sodium	816,000			NA			251,000		J	374,000		J
Thallium	3.6	U		NA			3.6	U		3.6	U	
Vanadium	143			NA			17.8	J		39.3	J	
Zinc	7.4	U		NA			13.6	J		7.4	U	
General Chemistry (2540B)	mg/L			mg/L			mg/L			mg/L		
Solids, Total Dissolved	**7,430**		J	NA			**3,890**			**4,990**		

Client Sample Identification:	SWMU 122-MW03			SWMU 122-MW04			SWMU 122-MW05			SWMU122-MW06		
Lab Sample Identification:	F66653-3			F66653-1			F66678-1			F66619-1		
Date Sampled:	7/14/2009			7/14/2009			7/14/2009			7/13/2009		
Analyte	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1
Volatile Organic Compounds (8260B)	µg/L			µg/L			µg/L			µg/L		
Acetone	10	U		10	U		10	U		10	U	
Acrolein	5.0	U		5.0	U		5.0	U		5.0	U	UJ
Acrylonitrile	2.0	U		2.0	U		2.0	U		2.0	U	
Benzene	0.40	U		0.40	U		0.40	U		0.40	U	
sec-Butylbenzene	0.25	U		0.25	U		0.25	U		0.25	U	
tert-Butylbenzene	0.32	U		0.32	U		0.32	U		0.32	U	
Chloroform	0.28	U		0.50	J		0.29	J		0.45	J	
Carbon disulfide	0.40	U		0.40	U		0.40	U		0.40	U	
Ethylbenzene	0.43	U		0.43	U		0.43	U		0.43	U	
Hexane	0.50	U		0.50	U		0.50	U		0.50	U	
Isopropylbenzene	0.20	U		0.20	U		0.20	U		0.20	U	
p-Isopropyltoluene	0.32	U		0.32	U		0.32	U		0.32	U	
Methylene chloride	1.0	U		1.0	U		1.0	U		1.0	U	
Methyl ethyl ketone	2.0	U		2.0	U		2.0	U		2.0	U	
Naphthalene	1.0	U		1.0	U		1.0	U		1.0	U	
n-Propylbenzene	0.25	U		0.25	U		0.25	U		0.25	U	
1,2,4-Trimethylbenzene	0.22	U		0.22	U		0.22	U		0.22	U	
1,3,5-Trimethylbenzene	0.20	U		0.20	U		0.20	U		0.20	U	
Toluene	0.35	U		0.35	U		0.35	U		0.35	U	
m,p-Xylene	0.78	U		0.78	U		0.78	U		0.78	U	
o-Xylene	0.37	U		0.37	U		0.37	U		0.37	U	
Semi-Volatile Organic Compounds (8270C)	µg/L			µg/L			µg/L			µg/L		
2,4-Dimethylphenol	1.2	U		1.2	U		1.2	U		1.1	U	
Benzyl Alcohol	1.0	U		0.96	U		0.96	U		0.95	U	
Di-n-butyl phthalate	1.0	U		1.1	J		2.1	J		0.95	U	
Diethyl phthalate	4.8	J		4.0	J		5.8			1.9	U	
bis(2-Ethylhexyl)phthalate	2.0	U		1.9	U		1.9	U		1.9	U	
2-Methylnaphthalene	1.0	U		0.96	U		0.96	U		0.95	U	
Naphthalene	1.0	U		0.96	U		0.96	U		0.95	U	
Total Petroleum Hydrocarbons (8015 M)	mg/L			mg/L			mg/L			mg/L		
Gasoline Range Organics (C6-C10)	0.050	U		0.050	U		0.050	U		0.050	U	
Diesel Range Organics (C10-C22)	0.130	J		0.096	U		0.125	J		0.095	U	
Oil Range Organics (>C22-C36)	0.096	U		0.096	U		0.096	U		0.095	U	
PCBs (8082)	µg/L			µg/L			µg/L			µg/L		
All PCBs	ND			ND			ND			ND		
TAL Metals Analysis (6010B / 7470A)	µg/L			µg/L			µg/L			µg/L		
Aluminum	11	U		11.4	J		14.1	J		19.7	J	
Arsenic	**11.8**	J	J	6.0	J	J	6.6	J	J	**12.4**		
Barium	37.0	J		33.3	J		35.9	J		34.4	J	
Calcium	571,000		J	464,000		J	454,000		J	460,000		J
Chromium	2.0	U		2.0	U		2.0	U		2.0	U	
Cobalt	5.4	J	J	3.1	J	J	1.9	J		1.0	U	
Copper	5.0	U		5.0	U		5.0	U		5.0	U	
Iron	32.3	J		**1,210**		J	23	U		23	U	
Lead	5.1	J		2.0	U		2.0	U		2.0	U	
Magnesium	188,000			252,000			337,000			353,000		
Manganese	**2,490**			**1,150**			**1,040**			**106**		
Nickel	19.2	J		17.2	J		14.5	J		7.4	J	
Potassium	17,800		J	27,400		J	38,100		J	55,100		J
Selenium	13.5	J		12.0			16.2			15.0	J	
Silver	1.4	U		1.4	U		1.4	U		1.4	U	
Sodium	145,000		J	600,000		J	937,000			1,190,000		J
Thallium	3.6	U		3.6	U		**4.2**	J		3.6	U	
Vanadium	51.4		J	9.3	J		15.0	J		51.5		
Zinc	10.4	J		13.0	J		14.0	J		8.4	J	
General Chemistry (2540B)	mg/L			mg/L			mg/L			mg/L		
Solids, Total Dissolved	**1,750**			**3,690**			**6,210**		J	**10,900**		

Client Sample Identification:	SWMU 122-MW07			SWMU 122-MW08			SWMU 122-MW09			SWMU122-MW10		
Lab Sample Identification:	F66653-4			F66653-6			F66678-2			F66576-1		
Date Sampled:	7/13/2009			7/13/2009			7/14/2009			7/9/2009		
Analyte	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1
Volatile Organic Compounds (8260B)	µg/L			µg/L			µg/L			µg/L		
Acetone	10	U		10	U		85.5	J		10	U	
Acrolein	5.0	U		5.0	U		25	U		5.0	U	
Acrylonitrile	2.0	U		2.0	U		36.0	J		2.0	U	
Benzene	0.40	U		0.40	U		3.5	J		0.40	U	
sec-Butylbenzene	0.25	U		0.25	U		3.2	J		0.25	U	
tert-Butylbenzene	0.32	U		0.32	U		1.6	U		0.32	U	
Chloroform	0.28	U		0.28	U		2.0	J		0.28	U	
Carbon disulfide	0.40	U		0.40	U		5.6	J		0.40	U	
Ethylbenzene	0.43	U		0.43	U		157			0.43	U	
Hexane	0.50	U		0.50	U		3.0	J	J	0.50	U	
Isopropylbenzene	0.20	U		0.20	U		14.8			0.20	U	
p-Isopropyltoluene	0.32	U		0.32	U		3.8	J		0.32	U	
Methylene chloride	1.0	U		1.0	U		5.0	U		1.0	U	
Methyl ethyl ketone	2.0	U		2.0	U		33.0			2.0	U	
Naphthalene	1.0	U		1.0	U		13.3	J		1.0	U	
n-Propylbenzene	0.25	U		0.25	U		15.4			0.25	U	
1,2,4-Trimethylbenzene	0.22	U		0.22	U		125			0.22	U	
1,3,5-Trimethylbenzene	0.20	U		0.20	U		56.8			0.20	U	
Toluene	0.35	U		0.35	U		373			0.35	U	
m,p-Xylene	0.78	U		0.78	U		**465**			0.78	U	
o-Xylene	0.37	U		0.37	U		**260**			0.37	U	
Semi-Volatile Organic Compounds (8270C)	µg/L			µg/L			µg/L			µg/L		
2,4-Dimethylphenol	1.2	U		1.2	U		6.8			1.2	U	
Benzyl Alcohol	0.96	U		0.96	U		1.0	J		0.98	U	
Di-n-butyl phthalate	0.96	U		0.96	U		0.96	U		0.98	U	
Diethyl phthalate	2.9	J		1.9	U		1.9	U		2.1	J	
bis(2-Ethylhexyl)phthalate	1.9	U		1.9	U		1.9	U		2.0	U	
2-Methylnaphthalene	0.96	U		0.96	U		5.6			0.98	U	
Naphthalene	0.96	U		0.96	U		6.3			0.98	U	
Total Petroleum Hydrocarbons (8015 M)	mg/L			mg/L			mg/L			mg/L		
Gasoline Range Organics (C6-C10)	0.050	U		0.050	U		4.10			0.050	U	
Diesel Range Organics (C10-C22)	0.096	U		0.096	U		0.466			0.10	U	
Oil Range Organics (>C22-C36)	0.096	U		0.096	U		0.096	U		0.10	U	
PCBs (8082)	µg/L			µg/L			µg/L			µg/L		
All PCBs	ND			ND			ND			ND		
TAL Metals Analysis (6010B / 7470A)	µg/L			µg/L			µg/L			µg/L		
Aluminum	15.4	J		11	U		13.5	J		26.2	J	
Arsenic	7.8	J	J	**17.1**		J	**19.8**		J	11	U	
Barium	54.8	J		26.8	J		19.0	J		34.6	J	
Calcium	477,000		J	447,000		J	443,000		J	598,000		J
Chromium	2.0	U		3.4	J		2.0	U		2.0	U	
Cobalt	5.1	J	UJ	1.0	U	UJ	1.3	J		1.0	U	
Copper	5.0	U		5.0	U		5.0	U		5.0	U	
Iron	**526**			23	U		245	J		23	U	
Lead	2.0	U		2.0	U		2.0	U		4.0	U	
Magnesium	297,000			336,000			399,000			18,300		
Manganese	**726**			44.4			**1,100**			44.4		
Nickel	31.4	J		4.8	J		7.0	J		2.3	U	
Potassium	28,800		J	57,200		J	22,100		J	6,820	J	J
Selenium	14.4			10.1			19.7			16.9	J	
Silver	1.4	U		1.4	U		1.4	U		1.4	U	
Sodium	604,000		J	597,000		J	1,510,000			13,300		
Thallium	3.6	U		3.6	U		**4.0**	J		3.6	U	
Vanadium	15.4	J		56.0		J	43.8	J		61.6		
Zinc	14.6	J		10.4	J		7.4	U		7.4	U	
General Chemistry (2540B)	mg/L			mg/L			mg/L			mg/L		
Solids, Total Dissolved	**5,320**			**6,450**			**8,130**		J	**5,600**		J

Client Sample Identification:	SWMU122-MW10-A			SWMU122-MW11			SWMU122-MW11 [9]			SWMU122-MW12			SWMU122-MW12 [9]		
Lab Sample Identification:	F66576-2			F66604-1			F66604-2			F66604-3			F66604-4		
Date Sampled:	7/9/2009			7/9/2009			7/10/2009			7/9/2009			7/10/2009		
Analyte	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1	Result [5]	Q	Q1
Volatile Organic Compounds (8260B)	µg/L			µg/L			µg/L			µg/L			µg/L		
Acetone	10	U		16.0	J		NA			10.9	J		NA		
Acrolein	5.0	U		5.0	U		NA			5.0	U		NA		
Acrylonitrile	2.0	U		2.0	U		NA			2.0	U		NA		
Benzene	0.40	U		0.40	U		NA			0.40	U		NA		
sec-Butylbenzene	0.25	U		0.25	U		NA			0.25	U		NA		
tert-Butylbenzene	0.32	U		0.32	U		NA			0.32	U		NA		
Chloroform	0.28	U		0.28	U		NA			0.28	U		NA		
Carbon disulfide	0.40	U		0.40	U		NA			0.40	U		NA		
Ethylbenzene	0.43	U		0.43	U		NA			0.43	U		NA		
Hexane	0.50	U		0.50	U		NA			0.50	U		NA		
Isopropylbenzene	0.20	U		0.20	U		NA			0.20	U		NA		
p-Isopropyltoluene	0.32	U		0.32	U		NA			0.32	U		NA		
Methylene chloride	1.0	U		1.0	U		NA			1.0	U		NA		
Methyl ethyl ketone	2.0	U		6.5			NA			3.1	J		NA		
Naphthalene	1.0	U		1.0	U		NA			1.0	U		NA		
n-Propylbenzene	0.25	U		0.25	U		NA			0.25	U		NA		
1,2,4-Trimethylbenzene	0.22	U		0.22	U		NA			0.22	U		NA		
1,3,5-Trimethylbenzene	0.20	U		0.20	U		NA			0.20	U		NA		
Toluene	0.35	U		0.49	J		NA			0.35	U		NA		
m,p-Xylene	0.78	U		0.78	U		NA			0.78	U		NA		
o-Xylene	0.37	U		0.37	U		NA			0.37	U		NA		
Semi-Volatile Organic Compounds (8270C)	µg/L			µg/L			µg/L			µg/L			µg/L		
2,4-Dimethylphenol	1.2	U		NA			1.1	U		NA			1.1	U	
Benzyl Alcohol	1.0	U		NA			0.95	U		NA			0.95	U	
Di-n-butyl phthalate	1.0	U		NA			0.95	U		NA			0.95	U	
Diethyl phthalate	2.0	U		NA			1.9	U		NA			1.9	U	
bis(2-Ethylhexyl)phthalate	2.0	U		NA			2.9	J		NA			1.9	U	
2-Methylnaphthalene	1.0	U		NA			0.95	U		NA			0.95	U	
Naphthalene	1.0	U		NA			0.95	U		NA			0.95	U	
Total Petroleum Hydrocarbons (8015 M)	mg/L			mg/L			mg/L			mg/L			mg/L		
Gasoline Range Organics (C6-C10)	0.050	U		0.050	U		NA			0.050	U		NA		
Diesel Range Organics (C10-C22)	0.108	J		NA			0.336			0.356			NA		
Oil Range Organics (>C22-C36)	0.111	J		NA			0.298			0.479			NA		
PCBs (8082)	µg/L			µg/L			µg/L			µg/L			µg/L		
All PCBs	ND			NA			ND			NA			ND		
TAL Metals Analysis (6010B / 7470A)	µg/L			µg/L			µg/L			µg/L			µg/L		
Aluminum	22.5	J		NA			24.4	J		NA			20.8	J	
Arsenic	11	U		NA			6.9	J		NA			7.7	J	
Barium	34.7	J		NA			68.4	J		NA			49.7	J	
Calcium	618,000		J	NA			454,000		J	NA			430,000		J
Chromium	2.0	U		NA			2.0	U		NA			2.0	U	
Cobalt	1.0	U		NA			2.7	J		NA			8.0	J	
Copper	5.0	U		NA			26.4	J		NA			20	U	
Iron	23	U		NA			23	U		NA			**13,600**		
Lead	4.0	U		NA			2.0	U		NA			2.0	U	
Magnesium	18,400			NA			385,000			NA			496,000		
Manganese	44.8			NA			**616**			NA			**624**		
Nickel	2.3	U		NA			36.8	J		NA			23.3	J	
Potassium	6,920	J	J	NA			73,000		J	NA			68,600		J
Selenium	20.7			NA			10.4	J		NA			23.9		
Silver	1.4	U		NA			1.4	J		NA			1.4	U	
Sodium	13,600			NA			1,120,000		J	NA			3,470,000		J
Thallium	3.6	U		NA			3.6	U		NA			3.6	U	
Vanadium	61.7			NA			10	J		NA			2.8	J	
Zinc	7.4	U		NA			73.4			NA			22.0		
General Chemistry (2540B)	mg/L			mg/L			mg/L			mg/L			mg/L		
Solids, Total Dissolved	**3,520**		J	NA			**9,710**			**23,000**			NA		

Notes:

NMWQCC = New Mexico Water Quality Control Commission
USEPA = United States Environmental Protection Agency
MCL = Maximum Contaminant Level
NMED = New Mexico Environment Department
UTL = Upper Tolerance Limit
PCB = Polychlorinated Biphenyls
TAL = Target Analyte List
µg/L = micrograms per liter
mg/L = milligrams per liter
NA = Not Analyzed
ND = Not Detected (All PCBs)
NV = No Value
Q = Laboratory Qualifier
Q1 = Validating Chemist Qualifier
Qaulifiers
U = Not detected
J = Indicates an estimated value
UJ = Estimated not detected
Client Sample Nomenclature
SWMU122 = Solid Waste Management Unit 122
SWMU123 = Solid Waste Management Unit 123
MW = Monitoring Well
A = Field Duplicate Sample

[1] Standards for Groundwater, if 10,000 mg/L TDS Concentration or Less, New Mexico Administrative Code 20.6.2.3103
[2] USEPA National Primary Drinking Water Regulations MCLs (816-F-09-004, May 2009)
[3] Table 3, *Conditional Approval Letter, Basewide Background Study Report, Holloman Air Force Base, New Mexico* (NMED, December 2011)
[4] Table 5-18, Basewide Background Study Report, Holloman Air Force Base, New Mexico (NationView|Bhate JV III, July 2011)
[5] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[6] NMED TPH Screening Guidelines for Diesel #2/Crankcase oil, Concentration in groundwater, Table 2b (October 2006)
[7] USEPA Secondary Drinking Water Standard
[8] GRO re-analysis due to laboratory error
[9] Due to poor recharge, two samples were collected, over a two day period
[10] Value established in the Basewide Background Study Report, HAFB, New Mexico (NationView/Bhate JV III, July 2011) and derived from the Total Groundwater UTL
[11] NMWQCC groundwater satandard for total xylenes
[12] USEPA MCL for total xylenes
Bold value indicates analytes above the New Mexico Groundwater Quality Standards, the USEPA MCLs, or the NMED TPH Screening Guidelines
Indicates combined o-xylene and m,p-xylene analytical results above the New Mexico Groundwater Quality Standard for Total xylene (NMAC 30.6.2.3103).
Indicates analytical results above the NMED Approved Background Levels, but below the New Mexico Groundwater Quality Standard, USEPA MCL, or no action level established

[1] Standards for Groundwater, if 10,000 mg/L TDS Concentration or Less, New Mexico Administrative Code 20.6.2.3103
[2] USEPA National Primary Drinking Water Regulations MCLs (816-F-09-004, May 2009)
[3] Table 3, *Conditional Approval Letter, Basewide Background Study Report, Holloman Air Force Base, New Mexico* (NMED, December 2011)
[4] Table 5-18, Basewide Background Study Report, Holloman Air Force Base, New Mexico (NationView|Bhate JV III, July 2011)
[5] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[6] NMED TPH Screening Guidelines for Diesel #2/Crankcase oil, Concentration in groundwater, Table 2b (October 2006)
[7] USEPA Secondary Drinking Water Standard
[8] GRO re-analysis due to laboratory error
[9] Due to poor recharge, two samples were collected, over a two day period
[10] Value established in the Basewide Background Study Report, HAFB, New Mexico (NationView/Bhate JV III, July 2011) and derived from the Total Groundwater UTL
[11] NMWQCC groundwater satandard for total xyxlenes
[12] USEPA MCL for total xylenes
Bold value indicates analytes above the New Mexico Groundwater Quality Standards, the USEPA MCLs, or the NMED TPH Screening Guidelines
Indicates combined o-xylene and m,p-xylene analytical results above the New Mexico Groundwater Quality Standard for Total xylene (NMAC 30.6.2.3103).
Indicates analytical results above the NMED Approved Background Levels, but below the New Mexico Groundwater Quality Standard, USEPA MCL, or no action level established

Table 7-2
Soil Geotechnical Results (July 2009)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Sample Identification	Method	Unit	SWMU122-DP05-4	SWMU122-DP05-8	Average
Depth (ft bgs)			2-4	6-8	
Date sampled			7/9/2009	7/9/2009	
Parameter					
Bulk Density (Dry Basis)	ASTM D2937-94 M	g/mL	1.0	1.2	1.100
Fractional Organic Carbon	ASTM D2974-87	%	6.4	6.2	6.300
Moisture Content (Solids, Percent)	SM19 2540B M	%	84	89.5	86.750
Specific Gravity	ASTM 1429		1.5	1.6	1.550

Notes:
ASTM - American Society for Testing and Materials
SM - Standard Method
ft bgs - Feet below ground surface
g/mL - grams per milliliter
% - percent
SWMU122 = Solid Waste Management Unit 122
DP = Direct Push
Final digit(s) equal the sample interval in feet below ground surface

Table 7-1
Soil Analytical Results (July 2009)
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Client Sample Identification:	Soil Screening Levels	Basewide Background Levels		SWMU122-DP01-5			SWMU122-DP01-10.5			SWMU122-DP02-5			SWMU122-DP02-10			SWMU122-DP03-5			SWMU122-DP03-10			SWMU122-DP04-5			SWMU122-DP04-10			SWMU122-DP04-10-A		
Lab Sample Identification:	NMED Residential[6]	NMED Approved Background Level [2]	Combined Soil UTL[3]	F66564-2			F66564-1			F66564-3			F66564-4			F66564-5			F66564-6			F66564-7			F66564-8			F66564-9		
Date Sampled:				7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009			7/9/2009		
Analyte (Method)				Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1	Result [4]	Q	Q1
Volatile Organic Compounds (8260B)	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**		
Methylene chloride	199	NV	NV	6.0	J		8.8	J		12.2	J		7.5	U		7.0	U		5.5	U		6.4	U		6.5	J	J	7.1	J	J
Semi-Volatile Organic Compounds (8270C)	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**		
All SVOCs	NV	NV	NV	ND			ND			ND			ND			ND			ND			ND			ND			ND		
Total Petroleum Hydrocarbons (8015 M)	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**		
Gasoline Range Organics (C6-C10)	880 [5]	NV	NV	3.3	U		5.4	U		5.6	U		5.3	U		4.4	U		3.4	U		4.3	U		3.2	U		4.3	U	
Diesel Range Organics (C10-C22)	880 [5]	NV	NV	5.9	U		7.2	U		7.5	U		8.1	U		7.1	U		6.3	U		6.5	U		6.2	U		7.0	U	
Oil Range Organics (>C22-C36)	880 [5]	NV	NV	5.9	U		7.2	U		7.5	U		8.1	U		7.1	U		6.3	U		6.5	U		6.2	U		7.0	U	
PCBs (8082)	**mg/kg**	**mg/kg**	**mg/kg**	**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**			**µg/kg**		
All PCBs	NV	NV	NV	ND			ND			ND			ND			ND			ND			ND			ND			ND		
TAL Metals Analysis (6010B / 7471A)	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**			**mg/kg**		
Aluminum	78,100	13,722	13,722.27	5,670			2,770			2,370			13,100			1,860			10,800			3,820			7,640			8,390		
Arsenic	3.9	3.7	3.66	2.0			2.5	U		2.7	U		**6.3**			2.6	J		**5.8**			2.4	J		3.0	J	J	**7.5**		J
Barium	15,600	169.3	169.25	52.3			24.3			35.8	J		55.9			25.1	J		60.7			38.3	J		75.6		J	139		J
Beryllium	156	1.6	1.53	0.25	J		0.14	U		0.60	U		0.76			0.54	U		0.61	J		0.50	U		0.48	U		0.56	U	
Cadmium	77.9	0.3	0.28	0.059	U		0.070	U		0.30	U		0.19	J		0.27	U		0.24	U		0.25	U		0.24	U		0.28	U	
Calcium	NV [6]	317,332	317,331.59	82,800		J	224,000		J	227,000		J	178,000		J	240,000		J	188,000		J	201,000		J	155,000		J	115,000		J
Chromium	219	25	24.95	5.3		J	2.5			2.2	J		12.4		J	1.4	J		10.9			3.4			8.0			8.6		
Cobalt	23 [7]	7.7	7.70	1.9	J		0.58	J		1.1	J		4.6		J	1.1	J		4.1	J		1.3	J		2.0	J	J	3.4	J	J
Copper	3,130	13	12.96	4.1			1.8			3.6	J		6.3			1.4	J		5.8	J		2.6	J		3.2	J	J	5.3	J	J
Iron	54,800	23,049	23,049.48	4,210		J	1,890		J	1,760		J	9,480		J	1,290		J	9,190		J	2,730		J	6,590		J	8,490		J
Lead	400	10.9	10.87	2.7	J		3.1	U		3.4	U		6.4	J		3.1	U		5.6	J		2.8	U		3.5	J		4.4	J	
Magnesium	NV [6]	16,991	16,990.65	5,250		J	1,790		J	4,150		J	18,000		J	2,100		J	18,600		J	3,660		J	5,220		J	12,400		J
Manganese	10,700	393	393.47	66.6		J	27.0		J	38.4		J	150		J	25.9		J	105		J	39.5		J	71.4		J	105		J
Nickel	1,560	17.4	17.34	3.7			1.6	J		2.0	J		10.3			2.2	J		9.7			2.9	J		5.7	J		7.5	J	
Potassium	NV [6]	5,077	5,077.12	2,240			1,350			1,140	J		4,440			854	J		3,470			1,570	J		2,540			2,760	J	
Selenium	391	1.4	1.4	1.9	J		4.5	J		4.8	J		3.4	J		7.3	J		5.2	J		6.1	J		3.5	J		2.5	J	
Sodium	NV [6]	5,196	5,195.97	1,160			186	J		862	J		988			272	J		559	J		224	J		228	J		230	U	
Vanadium	391	42.6	42.53	11.7		J	5.2		J	6.3	J		23.2		J	6.1	J		22.0		J	8.5	J	J	15.4		J	27.4		J
Zinc	23,500	54.6	54.53	12.9		J	5.2			6.4			27.9		J	3.9	J		25.8			7.9			17.3			19.3		
General Chemistry (2540B)	**%**	**%**	**%**	**%**			**%**			**%**			**%**			**%**			**%**			**%**			**%**			**%**		
Solids, Percent	NV	NV	NV	84.3			68.7			66.6			61.6			70.6			78.9			76.7			81.1			70.5		

Notes:
NMED = New Mexico Environment Department
UTL = Upper Tolerance Limit
TAL = Target Analyte List
SVOCs = Semi-Volatile Organic Compounds
PCBs = Polychlorinated Biphenyls
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
% = percent
ND = All compounds not detected
NV = No Value
Q = Laboratory Qualifier
Q1 = Validating Chemist Qualifier
Qualifiers
U = Not detected
J = Indicates an estimated value
Client Sample Nomenclature
SWMU122 = Solid Waste Management Unit 122
DP = Direct Push
A = Denotes a duplicate sample
Final digit(s) equal the sample interval depth below ground surface

[1] NMED, December 2009. *Technical Background Document for Development of Soil Screening Levels (SSLs), Revision 5.0.*
[2] Table 1, *Conditional Approval Letter, Basewide Background Study Report, Holloman Air Force Base, New Mexico* (NMED, December 2011)
[3] Table 5-18, Basewide Background Study Report, Holloman Air Force Base, New Mexico (NationView/Bhate JV III, July 2011)
[4] If results are not detected (U) then the value is set at the Method Detection Limit (MDL)
[5] NMED TPH Screening Guidelines for Diesel #2/Crankcase Oil, Residential Direct Exposure, Table 2b (October 2006)
[6] No Value established for NMED Residential SSL (December 2009) and USEPA RSL (November 2011)
[7] USEPA Region 3, 6, and 9 Regional Screening Levels (RSLs) (November 2011)

Bold value indicates analytes above NMED SSLs (Rev 5.0, December 2009) and the NMED Approved Background Levels (NMED, December 2011)
Indicates analytical results above the NMED Approved Background Level, but below the NMED Residential SSL (or no SSL established)

Table 5-2
Monitoring Well Construction Details
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Well Identification	Installation Date	Sampled 2009	Diameter (inches)	Screen Interval (ft bgs)	Depth to Water (ft below TOC)	Total depth (feet)	Status
SWMU123-MW1	8/15/2004	NS	2	8.0 - 18.0	NM	18.0	Active
SWMU123-MW3	8/16/2004	1	2	8.0 - 18.0	10.61	18.0	Active
SWMU123-MW4	8/16/2004	1	2	8.0 - 18.0	11.14	18.0	Active
SWMU123-MW5	8/15/2004	1	2	8.0 - 18.0	10.56	18.0	Active
SWMU122-MW01	7/9/2009	1	1	7.75 - 17.75	10.92	18.0	Active
SWMU122-MW02	7/9/2009	1	1	7.75 - 17.75	9.98	18.0	Active
SWMU122-MW03	7/10/2009	1	1	7.75 - 17.75	9.64	18.0	Active
SWMU122-MW04	7/10/2009	1	1	7.75 - 17.75	9.69	18.0	Active
SWMU122-MW05	7/10/2009	1	1	7.75 - 17.75	10.29	18.0	Active
SWMU122-MW06	7/9/2009	1	1	7.75 - 17.75	9.89	18.0	Active
SWMU122-MW07	7/8/2009	1	1	7.75 - 17.75	9.93	18.0	Active
SWMU122-MW08	7/8/2009	1	1	7.75 - 17.75	10.96	18.0	Active
SWMU122-MW09	7/8/2009	1	1	7.75 - 17.75	11.58	18.0	Active
SWMU122-MW10	7/7/2009	1	1	8.75 - 18.75	7.79	19.0	Active
SWMU122-MW11	7/7/2009	1	1	7.75 - 17.75	9.61	18.0	Active
SWMU122-MW12	7/7/2009	1	1	7.75 - 17.75	11.40	18.0	Active

Notes:
ft bgs = Feet below ground surface
ft below TOC = Feet below top of casing (based on July 13, 2009, groundwater elevation)
NS = Not Sampled
NM = Not Measured

Table 5-1
Summary of Soil Boring Locations and Sample Intervals
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Soil Boring Number	Location	Northing (NAD 83)	Easting (NAD 83)	Total Depth (ft)	Sample Depths for Analysis (ft bgs)	Laboratory Analysis
SWMU122-DP01	SWMU 122 (WOT Source Area)	673500.931	1695116.161	12	4-5, 9.5-10.5	VOCs, SVOCs, TPH, PCBs, TAL Metals
SWMU122-DP02	SWMU 122 (WOT Source Area)	673516.083	1695124.426	12	4-5, 9-10	VOCs, SVOCs, TPH, PCBs, TAL Metals
SWMU122-DP03	SWMU 122 (WOT Source Area)	673508.369	1695134.619	12	4-5, 9-10	VOCs, SVOCs, TPH, PCBs, TAL Metals
SWMU122-DP04	SWMU 122 (WOT Source Area)	673494.320	1695132.690	18	4-5, 9-10	VOCs, SVOCs, TPH, PCBs, TAL Metals
SWMU122-DP05	SWMU 122 (Geotechnical)	673523.246	1695195.226	10	3-4, 7-8	MC, DBD, SG, FOC

Notes:
WOT = Waste Oil Tank
NAD 83 = North American Datum 1983
VOCs = Volatile Organic Compounds
SVOCs = Semi-Volatile Organic Compounds
TPH = Total Petroleum Hydrocarbons (Gasoline Range Organics, Diesel Range Organics, and Oil Range Organics)
PCBs = Polychlorinated Biphenyls
TAL = Target Analyte List
MC = Moisture Content
DBD = Dry Bulk Density
SG = Specific Gravity
FOC = Fractional Organic Carbon
ft bgs = feet below ground surface

Table 3-2
Survey Data and Groundwater Elevation Summary (July 2009)
SWMU 122 and 123 RCRA Facility Investigation Report
Holloman Air Force Base, New Mexico

Well	Northing (NAD 83)	Easting (NAD 83)	TOC Elevation (ft above msl)	DTW from TOC (ft below TOC)	Groundwater Elevation July 13, 2009 (ft above msl)
SWMU122-MW01	673494.320	1695132.690	4,090.34	10.92	4,079.42
SWMU122-MW02	673350.675	1695107.650	4,088.62	9.98	4,078.64
SWMU122-MW03	673344.918	1695214.572	4,088.51	9.64	4,078.87
SWMU122-MW04	673392.621	1695256.519	4,088.45	9.69	4,078.76
SWMU122-MW05	673436.213	1695287.773	4,089.29	10.29	4,079.00
SWMU122-MW06	673221.546	1695153.709	4,088.01	9.89	4,078.12
SWMU122-MW07	673255.268	1695242.537	4,088.02	9.93	4,078.09
SWMU122-MW08	673243.753	1695393.050	4,088.88	10.96	4,077.92
SWMU122-MW09	673358.077	1695438.286	4,089.68	11.58	4,078.10
SWMU122-MW10	672978.916	1695201.413	4,086.05	7.79	4,078.26
SWMU122-MW11	673058.696	1695444.866	4,086.99	9.61	4,077.38
SWMU122-MW12	673195.227	1695550.965	4,088.67	11.40	4,077.27
SWMU123-MW3	NA	NA	NA	10.61	NA
SWMU123-MW4	673525.040	1695214.572	4,090.44	11.14	4,079.30
SWMU123-MW5	673494.609	1695267.211	4,089.77	10.56	4,079.21

Notes:
NAD 83 = North American Datum 1983
TOC = Top of Casing
DTW = Depth to Water
ft = feet
msl = mean sea level
NA = Not Available (Unable to obtain top of casing elevation due to canopy interference with global positioning system.)

Table 3-1
Groundwater Wells
Located Within a 4-Mile Radius
of Holloman Air Force Base
SWMU 122 and 123 RFI Report
Holloman AFB, New Mexico

Well ID Number	Use	NAD 83 UTM (in meters)		Well Depth (ft)
		X	Y	
T 00078	Commercial	398468	3648755	428
T 00868	Domestic	400972	3650377	215
T 03794	Irrigation	403280	3651057	250
T 04855	Domestic	403784	3651965	235
T 04967	Domestic	403480	3652067	200
T 00518	Domestic	405819	3646323	305
T 00518 S	Domestic	405819	3646323	220
T 00614	Domestic	404503	3646838	245
T 00995	Domestic	405824	3646730	308
T 01868	Domestic	405824	3646730	280
T 02650	Domestic	405619	3646523	265
T 03230	Domestic	403699	3647252	160
T 04728	Domestic	404503	3646838	216
T 05079 POD1	Domestic	401365	3646757	406
T 01167	Livestock	404993	3644302	170
T 01235	Irrigation	404995	3644706	200
T 03062	Commercial	403678	3644412	295
T 03455	Domestic	403365	3644318	150
T 03483	Domestic	402565	3644318	140
T 03934	Commercial	403578	3644915	160
T 05201 POD1	Irrigation	403380	3644374	295
T 05202 POD1	Irrigation	403381	3644374	250
T 00146	Livestock	402960	3642700	110
T 03245	Commercial	406609	3643887	190
T 04228	Domestic	405295	3643589	180
T 04386 S-6	Commercial	404903	3640666	290
T 04386 S-9	Commercial	404895	3640673	320
T 00172 S	Irrigation	406088	3640755	125
T 00776	Irrigation	406391	3640650	120
T 00782	Domestic	406187	3640854	120
T 00818	Irrigation	406391	3640650	125
T 02431	Domestic	405987	3640654	152
T 03909	Livestock	404765	3639453	140
T 04386 S	Commercial	404886	3638830	290
T 04386 S-2	Commercial	404888	3638830	310
T 04386 S-3	Commercial	404886	3638837	300
T 04386 S-4	Commercial	404886	3638841	295
T 04386 S-5	Commercial	404903	3640661	310
T 03147	Domestic	406380	3638633	135
T 04080	Domestic	406481	3638734	170
T 03228	Domestic	404290	3637226	160
T 00347	Domestic	403131	3634704	182
T 00972	Domestic	404882	3636009	150
T 01602	Domestic	406510	3635592	135
T 05041 POD1	Domestic	406205	3635697	200
T 01012	Commercial	401072	3634316	72
T 01277	Commercial	404434	3633172	104
T 01327	Commercial	400958	3633604	90
T 01526	Commercial	401368	3633601	152
T 01623	Domestic	400743	3633202	260

Source: New Mexico Water Rights Reporting System Database, 2009