DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 49TH FIGHTER WING (ACC)
HOLLOMAN AIR FORCE BASE, NEW MEXICO

DEC 12 2008

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT
Attn: Mr. James Bearzi
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Santa Fe NM 87105-6303

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

Subject: Final Accelerated Corrective Measures (ACM) Completion Report Sites OT-40 and OT 45 (November 2008) Holloman AFB, NM6572124422 HWB-HAFB

1. The subject ACM completion report is hereby submitted to NMED for review.

2. 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.

3. If you have any questions, please feel free to contact Mr. David Scruggs at (575) 572-5395.

12 Dec 08
A. DAVID BUDAK
Deputy Base Civil Engineer

Attachment:
Final Accelerated Corrective Measures (ACM) Completion Report

cc:

(w/Atch)	(w/o Atch)	(w/o Atch)
Mr. David Strasser	Mr. Will Moats	Ms. Laurie King
Hazardous Waste Bureau	Hazardous Waste Bureau	USEPA, Region 6 (6PD-F)
5500 San Antonio Dr. NE	5500 San Antonio Dr. NE	1445 Ross Ave., Ste 1200
Albuquerque, NM 87109	Albuquerque, NM 87109	Dallas, TX 75202-2733

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FINAL
ACCELERATED CORRECTIVE MEASURES COMPLETION REPORT SITES OT-03 AND OT-45
HOLLOMAN AFB, NEW MEXICO

Prepared For:

49 CES/CEV
Holloman Air Force Base
New Mexico

Under Contract To:
U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

Contract No. DACA45-03-D-0023
Task Order No. 021
Bhate Project Number 9050361

November 2008

bhate associates
ENGINEERING, SCIENCE AND CONSTRUCTION

Holloman Air Force Base

FINAL

ACCELERATED CORRECTIVE MEASURES COMPLETION REPORT

SITES OT-03 AND OT-45 HOLLOMAN AIR FORCE BASE, NEW MEXICO

Prepared for:

49 CES/CEV
Holloman Air Force Base
New Mexico

Under Contract to:

U.S. Army Corps of Engineers
Omaha, Nebraska
Contract No. DACA45-03-D-0023
Task Order No. 021

Prepared by:

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

Bhate Project No. 9050361

November 2008
Revision No. 00

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Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. NM6572124422
Manifest Doc. No.
2. Page 1 of
Holloman-08-009

3. Generator's Name and Mailing Address 49th CES/CEV
Highway 70
Holloman AFB NM 88330

4. Generator's Phone (505) 572-3931

5. Transporter 1 Company Name Rhino Environmental PO Box 310 Carrizzillo Tx 79835
6. US EPA ID Number NA
A. Transporter's Phone 915-886-4355

7. Transporter 2 Company Name
8. US EPA ID Number NA
B. Transporter's Phone

9. Designated Facility Name and Site Address Rhino's DP-1051
1.7 miles N. of NM/TX STATE LINE
Hwy 54, OTERO COUNTY, NM
10. US EPA ID Number N/A
C. Facility's Phone 915-886-4355

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd
b.				
c.				
d.				

Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell: M Non-HAZARDOUS Gasoline, Diesel, JET Fuel Impacted Soil

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 Deborah J Hartell
Signature Deborah J Hartell
Month 12 Day 15 Year 08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name Perry Rivera
Signature
Month 12 Day 18 Year 08

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 Alan Barraza
Signature
Month 12 Day 18 Year 08

GENERATOR
TRANSPORTER
FACILITY

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

12-BLS-C5 Rev. 12/98

ORIGINAL – RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-010

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: Rhino Environmental Services, Inc., PO Box 310 Carrizzillo, TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County NM

U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 8 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Cary Rivera — Truck # 525 — Signature: [signature] — Month 2 Day 8 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2 Day 8 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

FINAL

ACCELERATED CORRECTIVE MEASURES COMPLETION REPORT

SITES OT-03 AND OT-45 HOLLOMAN AIR FORCE BASE, NEW MEXICO

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C Monitoring Well Sample Collection Forms
D Analytical Data Packages (Provided on Enclosed CD)
E Data Validation Reports
F Waste Manifests & Truck Logs

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LIST OF ACRONYMS

AAF	Army Air Field
ACC	Air Combat Command
ACM	Accelerated Corrective Measures
AGE	Aerospace Ground Equipment
amsl	Above mean sea level
AOC	Area of Concern
ASTM	American Society for Testing and Materials
atm-m^3/mol	Atmospheric-cubic meters per mole
AVGAS	Aviation Gasoline
bgs	Below ground surface
Bhate	Bhate Environmental Associates, Inc.
BNA	Acid/Base/Neutral extractable organics
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
°C	Degrees Celsius
COPC	Chemicals of potential concern
DPT	Direct push technology
DQO	Data quality objectives
DRO	Diesel Range Organics
EM	Exposure model
ERP	Environmental Restoration Program
°F	Degrees Fahrenheit
ft	Feet/foot
g/mole	Grams per mole
GPS	Global Positioning System
GRO	Gasoline Range Organics
H	Henry's law constant
HAFB	Holloman Air Force Base
HQ	Hazard Quotient
IDW	Investigation Derived Waste
IRP	Installation Restoration Program
J	Data Qualifier (denotes an estimated value)
J&E	Johnson & Ettinger
JP-4	Jet Propulsion fuel, Type 4
LCSD	Laboratory Control Sample Duplicate
MCL	Maximum Contaminant Level
MDL	Method detection limit
mm/sec	Millimeters per second
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
NAD	North American Datum
NFA	No Further Action

NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
ORO	Oil Range Organics
PCS	Petroleum contaminated soil
pH	Potential of Hydrogen (measurement of acidity)
PID	Photo-ionization detector
POL	Petroleum, Oil, and Lubricants
ppm	Parts per million
PVC	Polyvinyl chloride
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RA	Risk Assessment
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation Recovery Act
RFI	RCRA Facility Investigation
Rhino	Rhino Environmental Services Incorporated
RI	Remedial Investigation
SOP	Standard Operating Procedure
SSLs	Soil Screening Levels
STL	Severn Trent Laboratories
SVOC	Semi-volatile organic compound
SWMU	Solid Waste Management Unit
TCEQ	Texas Commission on Environmental Quality
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total dissolved solids
TEL	Tetraethyl Lead
TOC	Total Organic Carbon
TOX	Total Organic Halogens
TPH	Total petroleum hydrocarbons
TRPH	Total recoverable petroleum hydrocarbons
TRRP	Texas Risk Reduction Program
UFGS	Unified Facilities Guide Specifications
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
UST	Underground Storage Tank
VOC	Volatile organic compound
WRCC	Western Regional Climate Center

1 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), Omaha District, has retained Bhate Environmental Associates, Inc., (Bhate) to prepare this *Accelerated Corrective Measures Completion Report* for the additional investigation and soil excavation activities conducted at the Petroleum, Oil, and Lubricant (POL) Tank Sludge Burial site (OT-03) and the Old Aerospace Ground Equipment (AGE) Refueling Station Site (OT-45) at Holloman Air Force Base (HAFB), New Mexico. Bhate prepared this document for HAFB under the Service Contract with the USACE (Contract No. DACA45-03-D0023, Task Order No. 021).

This report documents the Accelerated Corrective Measures (ACMs) performed to remove petroleum-contaminated soil (PCS) from the Environmental Restoration Program (ERP) Sites OT-03 (POL Tank Sludge Burial Site) and OT-45 (Old AGE Refueling Station Site). These sites are listed as Solid Waste Management Unit (SWMU) 114 (OT-03) and Area of Concern (AOC) O (OT-45) in Appendix 4-A of the HAFB Resource Conservation and Recovery Act (RCRA) *Hazardous Waste Facility Permit No. NM6572124422* issued by the New Mexico Environment Department (NMED) on February 24, 2004.

1.1 Objectives

The objectives of the ACMs at Sites OT-03 and OT-45 were to review available information, collect additional soil and groundwater data to fill data gaps (OT-45 only) and to remove through excavation and properly dispose of the PCS at each site. In addition, the *Final Accelerated Corrective Measures Work Plan, Multiple Sites, Holloman Air Force Base, New Mexico* (Bhate, 2007) addressed deficiencies identified in correspondence dated March 30, 2007, from NMED to HAFB (Attachment A). The objectives outlined in the ACM Multiple Sites Work Plan are summarized as follows:

- Collect and analyze soil samples at OT-45 for volatile organic compounds (VOCs), semi-volatile compounds (SVOCs), and total petroleum hydrocarbons (TPH) to further define the extent of contamination;
- Analyze groundwater samples from existing wells at OT-45 for VOCs, SVOCs, and TPH;
- Excavate and dispose the PCS from OT-03 and OT-45; and
- Perform physical survey of soil borings and monitoring wells (OT-45) and the boundaries of the excavated areas at each site with survey grade Global Positioning System (GPS).

This document describes the investigation and excavation activities of the ACM at Sites OT-03 and OT-45. Also, the report summarizes the previously known subsurface conditions, the extent of 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 No Further Action (NFA) approval for site closure from NMED. The conclusion of the

document requests that NMED issue a NFA for OT-03 (SWMU 114) and OT-45 (AOC-O) based upon Criterion #5 (Appendix 4-B HAFB *Hazardous Waste Facility Permit No. NM6572124422*), (NMED, 2004) 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."*

This criterion was accomplished by removing the PCS present at each site which had exceeded the NMED soil screening levels (SSLs).

1.2 Technical Approach

Investigation and soil excavation activities were conducted in accordance with the *Final Accelerated Corrective Measures Work Plan, Multiple Sites, Holloman Air Force Base, New Mexico* (Bhate, 2007). NMED provided written approval of the ACM Multiple Sites Work Plan on April 24, 2007. The Notice of Approval Letter is presented in Attachment A of this report.

1.3 Scope of Work

The work conducted under the ACM Multiple Sites Work Plan was conducted in a phased approach. The first phase involved drilling additional soil borings and the sampling of existing monitoring wells at site OT-45 to further define the extent of contamination. Based on the analytical results of this ACM at OT-45 and previous investigations at OT-03 and OT-45, the second phase, removal of PCS, was conducted at both sites. Details regarding the second phase are provided in Section 8 (ACM Excavation and Sampling Analytical Results) of this report.

The following summary of work, as detailed in the *Final Accelerated Corrective Measures Work Plan, Multiple Sites, Holloman Air Force Base, New Mexico* (Bhate, 2007), was performed under this ACM and included:

- Review existing information about the site;
- Conduct a site and environs reconnaissance;
- Collect additional soil and groundwater data;
- Identify potential receptors; and
- Evaluate all information collected.

OT-03 was sufficiently characterized for PCS removal operations, so therefore no additional investigation occurred. However, an additional investigation was completed at OT-45 to meet the project objectives. The following activities were performed at OT-45 by Bhate in June 2007.

- Nine shallow borings (OT45-DP01 through OT45-DP09) were advanced and sampled to define the extent of PCS at the site;

- Two soil samples were collected (OT45-DP10 and OT45-DP11), and submitted for geotechnical analysis, to provide background geotechnical data of the site, in support of the site specific risk based assessment;

- A round of groundwater samples were collected from the five existing monitoring wells (S51-MW1, S51-MW3 through S51-MW5, and S51-MW7), and analyzed for the following parameters:
    - VOCs using U.S. Environmental Protection Agency (USEPA) Method 8260B
    - SVOCs using USEPA Method 8270C
    - TPH by USEPA Method 8015
    - Total Dissolved Solids (TDS) by USEPA Method 160.1

1.4 Document Organization

This Accelerated Corrective Measures Completion Report has been modeled after the format suggested in the RCRA Facility Investigation (RFI) Report Requirements found in the HAFB RCRA Permit NM6572124422 (Appendix 4-B of the Permit). The document contains the following 11 sections:

- Section 1 – Introduction
- Section 2 – Site Background
- Section 3 – Environmental Setting
- Section 4 – Source Characterization
- Section 5 – Field Activities
- Section 6 – Site OT-45 Laboratory Analysis and Data Validation Summary
- Section 7 – Site OT-45 Nature and Extent of Contamination
- Section 8 – ACM Excavation and Sampling Analytical Results
- Section 9 – Site OT-45 Risk Based Evaluation
- Section 10 – Conclusions and Recommendations
- Section 11 – References

The tables and figures referenced throughout this ACM Report are included following the text (after Section 11).

This report also includes the following attachments and appendices:

- Attachment A – NMED Correspondence
- Appendix A – Historical Data from Previous Investigations
- Appendix B – Soil Boring Logs
- Appendix C – Monitoring Well Sample Collection Forms
- Appendix D – Analytical Data Packages (Provided on Enclosed CD)
- Appendix E – Data Validation Reports
- Appendix F – Waste Manifests and Truck Logs

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2 SITE BACKGROUND

2.1 Holloman AFB Site Description

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 occupies about 50,000 acres in the northeast quarter of Section 1, Township 17 South, and 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 the county seat for Otero County, has a population of approximately 35,000 and is located approximately 7 miles east of the base. The economy of Alamogordo depends largely upon Holloman AFB and other military installations in the area.

HAFB was first established in 1942 as Alamogordo Army Air Field (AAF). From 1942 through 1945, Alamogordo AAF served as the training grounds for over 20 different flight groups, flying primarily B-17s, B-24s, and B-29s. After World War II, most operations had ceased at the base. In 1947, Air Material Command announced the air field would be its primary site for the testing and development of un-manned aircraft, guided missiles, and other research programs. On January 13, 1948, the Alamogordo installation was renamed Holloman Air Force Base, in honor of the late Col. George V. Holloman; a pioneer in guided missile research. The facility mission remained largely unchanged until 1971, although the facility identification changed several times during the 20-year span: Air Force Missile Test Center (1951-1952), Holloman Air Development Center (1952-1957), and Air Force Missile Development Center (1957-1971). The Tactical Air Command operated the facility form 1972 to 1992 and housed the 49th Tactical Fighter Wing, 479th Tactical Training Wing, 833rd Air Division, and 4449th Mobile Support Squadron. In 1992, HAFB was realigned under the Air Combat Command (ACC) and also serves as the training center for the German Air Force's Tactical Training Center.

2.2 OT-03 POL Tank Sludge Burial Site

2.2.1 Site Description and Background

This site is a SWMU and is listed on Table A of the HAFB RCRA Permit as the Tetraethyl Lead (TEL) Disposal Site, SWMU 114. This former land disposal site is located outside the east perimeter fence of the POL storage facilities (Figure 2-2). It has been utilized in the past to dispose of the bottom sludge from fuel storage tanks (aviation gasoline [AVGAS], and jet propulsion fuel, Type 4 [JP-4]). From 1955 to 1975, wastes such as leaded fuel tank sludge, rusted metal fragments, rags, and hand tools were disposed of in the pit. The approximate extent of the disposal pit was thought to be 10 feet (ft) by 6 ft with an assumed depth of 4 ft.

2.2.2 Previous Investigations

In January 1980, the HAFB Bioenvironmental Engineering Department collected and analyzed eight soil samples from the OT-03 pit and surrounding area (Figure 2-3). The highest total lead concentrations (3,750 parts per million [ppm] and 1,500 ppm) were detected in the samples collected from within the pit. Lead was also detected at concentrations ranging from 157 to 550 ppm in samples collected from 6 to 30 ft outside the pit (Andreoli, 1980). The analytical results and sample locations for the surface and subsurface soil samples collected during this sampling event are included in Appendix A-1-1.

A record search for Site OT-03 was conducted by CH_2M Hill in 1982 (CH_2M Hill, 1983). The record search concluded that the site was not considered to present a significant concern for adverse effects on health or the environment. The site was reinvestigated in November 1991 during a Remedial Investigation (RI) conducted by Radian Corporation (Radian). The following information was obtained from the *Draft Final Remedial Investigation (RI) Report, Investigation, Study and Recommendation for 29 Waste Sites, Holloman Air Force Base, NM* (Radian, 1992). The scope of work for the OT-03 RI included the following field activities:

- Prior to soil and monitoring well installation, two 120-ft long trenches were dug with a back hoe to confirm the location and determine the extent of the burial pit. The trenches were approximately 1-ft wide and extended no more than 4 ft below ground surface.

- Collection of 16 surface soil samples (HA-03-01 through HA-03-16) from the 0 to 2 ft interval using stainless steel augers at approximately 15-ft intervals (Figure 2-3). All surface soil samples were analyzed in the laboratory for organolead and total lead.

- One soil boring (SB-03-01) was drilled inside the pit. A composite soil sample was collected of the waste material (0 to 6 ft below ground surface [bgs]) and a second sample was collected from the undisturbed native material below the pit (6 to 9 ft bgs). Both of these subsurface soil samples were analyzed for VOCs, petroleum hydrocarbons, organolead, and total metals.

- The soil boring was completed as a monitoring well (MW-03-01) to determine whether a release to groundwater had occurred. The well was developed, sampled, and slug tested. One groundwater sample was collected and analyzed for VOCs, anions, TDS, organolead, and total metals.

Organolead was not detected in any of the 16 surface soil samples; however, total lead was detected in all the samples at concentrations ranging between 1.7 to 38 milligrams per kilogram (mg/kg). In the two subsurface soil samples that were collected for analysis; lead was detected in the 0 to 6 ft bgs waste interval at 50 mg/kg and at 48 mg/kg in the underlying soil. These concentrations are both well below the current NMED SSL (NMED, 2006a) for lead (400 mg/kg). In addition to lead, arsenic was also detected in subsurface soil sample SB-03-01 at 6-9 feet bgs with a concentration of 4.3 mg/kg, exceeding the current NMED SSL (3.9 mg/kg). This singular detection of arsenic above the NMED SSL most likely represents the natural variability

in soil geochemistry. All other metals detected in the waste and underlying undisturbed interval were measured at values less than their respective NMED SSLs (NMED, 2006a). Petroleum hydrocarbons were detected in the waste at 1,160 mg/kg and in the underlying soil at a higher concentration of 2,020 mg/kg. Two VOCs were also detected in both the waste and underlying soil sample, with the higher concentrations (1,600 micrograms per kilogram [µg/kg] of ethylbenzene and 3,300 µg/kg of xylenes) detected in the underlying soil sample.

One monitoring well (MW-03-01) was installed through the waste pit and sampled to determine whether a release had occurred to the groundwater (Figure 2-3). Concentrations of lead (0.019 milligrams per liter [mg/L]) and antimony (0.13 mg/L) were detected above their USEPA Maximum Contaminant Levels (MCLs) of 0.015 and 0.006 mg/L respectively. However, lead concentrations were the result of suspected method blank contamination, and all other metals were below current groundwater standards. Several VOCs were also detected in the groundwater at Site OT-03. Benzene (4,500 micrograms per liter [µg/L]), ethylbenzene (1,600 µg/L), and xylenes (700 µg/L) had the highest concentrations of detected VOCs. The groundwater quality parameters collected included chloride (2,600 mg/L), sulfate (5,500 mg/L), fluoride (2.5 mg/L), and total phosphorus (0.56 mg/L). Additionally, TDS was recorded at a concentration of 14,000 mg/L, which exceeds the New Mexico Water Quality Control Commission (NMWQCC) limit of 10,000 mg/kg for potable water (20.6.2.301 New Mexico Administration Code [NMAC]).

The analytical results and sample locations for the surface soil, subsurface soil, and groundwater samples collected during the OT-03 RI are included in Appendix A-1-2. The RI Report (Radian, 1992) determined that the site should proceed to implementation of an Installation Restoration Program (IRP) remedial action/RCRA corrective action remedy.

2.3 OT-45 Old AGE Refueling Station

2.3.1 Site Description and Background

This site is an AOC and is listed on Table A of the HAFB RCRA Permit as Building 296, Old AGE Refueling Station, AOC-O. Site OT-45 (formerly Site 51) the Old Aerospace Ground Equipment (AGE) Refueling Station is located near the intersection of West Delaware Avenue and West Fourth Street, south of the Building 296 parking lot (Figure 2-2). The Old AGE Refueling Station consisted of three underground storage tanks (USTs) (two 12,500 gallon tanks and one 10,000 gallon tank) that stored gasoline, diesel, and JP-4. The site was also equipped with a pump island and fuel dispensing station. The Refueling Station including the three USTs were removed in the 1980s during the renovation of Building 296 and were replaced with a parking lot and landscaped area. The condition of the USTs when removed is unknown.

The Site was not identified in the IRP Records Search (CH_2M Hill, 1983). However, during the excavation of a utility trench at the site, liquid hydrocarbons were discovered floating on the water table. Subsequently, the site was added to the IRP and also became known as an Area of Concern.

2.3.2 Previous Investigations

Since 1984, the Old AGE Refueling Station (OT-45) has been the subject of two environmental investigations involving the evaluation of the soil and groundwater conditions and a remedial action excavation. The first investigation (Phase II – Confirmation/Quantification Stage 1) was conducted by Dames & Moore in 1984 (Dames & Moore, 1987). A follow-on Remedial Investigation was conducted by Walk, Haydel & Associates, Inc. in 1988-89. As a result of contaminated soils delineated during the Remedial Investigation, IT Corporation conducted a remedial action excavation of the PCS due to the leaking underground storage tanks and fuel lines in 1991. The sampling locations from the Phase II and RI investigations as well as the excavation area are presented on Figure 2-4. During these investigations and remedial action the Old AGE Refueling Station was referred to as Site 51; however in 1992 the site was renamed OT-45. In 1992 a confirmation sampling event was conducted around the perimeter of the PCS excavation at OT-45 to determine that Total Recoverable Petroleum Hydrocarbon (TRPH) concentrations were not above the 1,000 mg/kg TRPH cleanup standard established for HAFB at the time (Foster Wheeler and Radian, 1996).

The chronology and findings of the previous investigations, remedial action, and confirmation sampling event conducted at the Old AGE Refueling Station are presented in the sections below.

2.3.2.1 IRP Phase II – Stage 1 Investigation

The site was investigated in September 1984 during the Phase II - Stage 1 investigation conducted by Dames & Moore. The following information was obtained from the IRP Phase II – Confirmation/Quantification Stage I report (Dames & Moore, 1987). The scope of work for the Phase II – Stage 1 investigation included the following field activities:

- Two soil borings (51B1 and 51W1) were drilled to determine if a release had occurred at the site. A total of five soil samples were collected from the two boreholes and analyzed for oil and grease, total organic halogens (TOX), and phenolics.
- A monitoring well was installed in the 51W1 soil boring. A groundwater sample collected from this well was analyzed for oil and grease, TOX, total organic carbon (TOC), and phenolics.

The soil had a strong fuel odor that decreased in intensity at depth. TOX concentrations (6.4 to 50 mg/kg) were above the detection limit in all samples. All of the samples were negative for phenolics and only one sample (51B1, 5 to 6.5 ft bgs) contained oil and grease (39 mg/kg). The water sample collected from 51W1 showed moderate levels of TOC (68,000 µg/L) and relatively high levels of oil and grease (85,000 µg/L), phenolics (290 µg/L), and TOX (27,000 µg/L).

The analytical results and sample locations for the subsurface soil and groundwater samples collected during the Phase II Stage 1 investigation are included in Appendix A-2-1. The Phase II – Stage 1 report (Dames & Moore, 1987) recommended further investigation to define the nature and extent of contamination.

2.3.2.2 Remedial Investigation

Walk, Haydel & Associates, Inc., performed a Remedial Investigation at the Old AGE Refueling Station in March 1988 and January 1989. The RI was performed in two stages. The following information was obtained from the *Final Remedial Investigation Report* (Walk, Haydel & Associates, 1989). The scope of work for the RI included the following field activities:

- During the RI - Stage I, five monitoring wells were installed (MW1 through MW5). Soil samples collected from the five monitoring well borings (B1 through B5) were analyzed for volatile organics, acid/base/neutral extractable organics (BNA), TRPH, and lead.

- A sixth soil boring (B6) was drilled near the sewer line southeast of Building 284 however no soil samples were collected for laboratory analysis.

- A round of groundwater samples were collected from the Phase II - Stage 1 well (51W1) and the five new wells (MW1 through MW5). Groundwater samples were analyzed for volatile organics, BNA, TRPH, and lead.

- During the RI - Stage II, two additional monitoring wells (MW7 and MW8) were installed. Soil samples were collected from the two additional monitoring well borings (B7 and B8) were analyzed for volatile organics, BNA, TRPH, and lead.

- A second round of groundwater samples were collected from the previously installed well (51W1) and the seven new wells (MW1 through MW5, MW7, and MW8). Groundwater samples were analyzed for volatile organics, TRPH, and BNA.

Low levels of petroleum related compounds and volatile organics were detected in the soil samples collected in B1, B2, B3, and B8 to depths of 15 ft bgs. The highest levels of VOC contamination (benzene, chlorobenzene, ethylbenzene, styrene, toluene and 1,1,2,2-tetrachloroethane) were detected in B2 at 5 ft bgs with concentrations ranging from 2,010 to 62,300 µg/kg. BNA results for soil were all below the detection limits except for the 5 ft sample at B2 where 2-methylnaphthalene (5,200 µg/kg) and naphthalene (26,000 µg/kg) were found. The highest concentration of TRPH (1,265 mg/kg) was detected in soil sample B2 and the highest concentration of lead (6 mg/kg) was detected in two soil samples, B4 and B5.

The monitoring wells were sampled during two separate stages of the RI. Stage I included sampling of existing well 51W1 and the five new monitoring wells (MW1 through MW5) installed. A variety of solvents including 1,1-dichloroethane, tetrachloroethene, and trichloroethene as well as benzene, ethylbenzene, toluene, and xylenes (BTEX) constituents were detected in the 6 groundwater samples collected during the first phase of sampling ranging up to 59 µg/L (1,1-dichloroethane).

The Stage II groundwater sampling involved sampling 51W1, the 5 wells installed during the first phase and two additional wells (MW7 and MW8) installed during the second stage. Six inches of floating product was found in the RI Stage II sample from MW2, which was also sampled. Analysis of the floating product showed solvents (chlorobenzene and 2-hexanone),

BTEX, hexanes, and cyclohexanes typical of light petroleum fuels. The USACE Quality Assurance Laboratory identified the product as JP-4 with a trace of Fuel Oil No. 6.

Some degree of VOC contamination was found in the groundwater from all monitoring wells sampled during Stage II. Contaminants included BTEX compounds and a variety of solvents, including trichloroethene, tetrachloroethene, as well as similar solvents to those found in the floating product from MW2. Monitoring wells MW2 and MW3 had the highest concentrations of VOCs, with MW2 having the highest concentrations of BTEX constituents ranging up to 720 µg/L (total xylenes). The upgradient monitoring well, MW3, had little to no BTEX compounds but had the highest concentrations of the various solvents ranging up to 740 µg/L (1,1-dichloroethane). The RI report stated that these solvent detections suggested an additional contaminant source upgradient of the site. Three wells (MW4, MW5, and MW7) appeared to be at the downgradient edge of the dissolved contaminant plume due to their very low VOC levels.

The analytical results and sample locations for the subsurface soil and groundwater samples collected during the Remedial Investigation are included in Appendix A-2-2. The *Final Remedial Investigation Report* (Walk, Haydel & Associates, 1989) recommended that a feasibility study be conducted for site remediation.

2.3.2.3 Remedial Action Excavation

To mitigate the potential risks posed by the site, a remedial action was proposed in 1991. IT Corporation was contracted to perform a remedial action excavation of the PCS at the Old AGE Refueling Station in September 1991. The Quality Control Daily Reports indicated that 3,320 cubic yards of PCS and approximately 10,000 gallons of wastewater were removed. The excavation covered an area approximately 200 ft long by 65 ft wide and roughly 6.5 ft deep which corresponds to about 80% of the parking lot area in front of Building 296 (Figure 2-4). The excavation was backfilled with clean fill from the HAFB borrow pit and the area was restored (IT Corporation, 1991). Information including a map showing the area of excavation from this remedial action is included in Appendix A-2-3.

2.3.2.4 Confirmation Sampling

Confirmation sampling was conducted at Site OT-45 in 1994 by Foster Wheeler to ensure that the remaining levels of TRPH in the soil surrounding the PCS excavation did not exceed the 1,000 mg/kg cleanup standard. The following information was obtained from the *Technical Memorandum, Installation Restoration Sites SS-12, SD-27, and OT-45* (Foster Wheeler, 1996). The scope of work for the confirmation sampling included the following field activities:

- A soil boring was drilled on each side of the rectangular shaped former PCS excavation area. Subsurface soil samples were initially collected from four soil borings (45-B09 through 45-B12).

- The soil samples were collected from the 1.0 to 2.5 ft bgs and the 3.0 to 4.5 ft bgs intervals. The soil samples were submitted for analysis by USEPA Method SW8015 modified for purgeable and extractable organics. However, the only purgeable

parameters analyzed by the laboratory were gasoline range organics (GRO) and diesel range organics (DRO).

- Due to the absence of BTEX data from the original samples, four additional hand auger samples were collected for boreholes 45-B09R through 45-B12R. These hand auger soil samples were collected within three ft of the original soil boring and submitted to the laboratory for DRO, GRO, and BTEX analysis.

With the exception of soil borings 45-B10 and 45-B12, only low levels of DRO, GRO, and BTEX were detected in the samples. Elevated DRO (310 mg/kg) and GRO (750 mg/kg) concentrations were detected in the 3.0 to 4.5-ft sample interval of soil boring 45-B10. Elevated DRO (1,200 and 530 mg/kg) and GRO (1,900 and 3,400 mg/kg) concentrations were detected in the 1.0- to 2.5-ft and 3.0- to 4.5-ft sample intervals of soil boring 45-B12.

The analytical results and sample locations for the subsurface soil samples collected during the confirmation sampling event are included in Appendix A-2-4. The *Technical Memorandum for Installation Restoration Sites SS-12, SD-27, and OT-45* (Foster Wheeler, 1996) determined that although the GRO/DRO sum exceeded the Base-specific cleanup level of 1,000 mg/kg, the TRPH contamination above 1,000 mg/kg was very limited and recommended site closeout for OT-45.

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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. 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 basin is bounded on the south by a low topographic divide near the Texas state line; on the west (about 30 miles) by the uplifted Organ, San Andes and Oscura Mountains; on the north by Chupadera Mesa; and on the east (about 10 miles) by the uplifted Jicarilla and Sacramento Mountains. The surrounding mountains rise abruptly to altitudes of 7,000 to 12,000 feet amsl. At its widest, the basin is about 60 miles east to west and stretches approximately 150 miles north to south.

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 that trend to the southwest (see Figure 3-2 of this report). 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 Rita's Draw, which drain into the Lost River, and Dillard Draw arroyos are located along the eastern perimeter of the Base. Approximately 10,000 years ago, indications are of a much wetter climate. The present day Lake Otero encompassed a much larger area, possibly upwards of several hundred square miles. Its remains are the Alkali Flat and Lake Lucero. Lake Lucero is a temporary feature of merely a few inches in depth during the rainy season.

Ancient lakes and streams deposited water bearing deposits over the older bedrock basement material. Fractures, cracks, and fissures in the Permian and Pennsylvanian bedrock yield small quantities of relatively good quality water in the deeper peripheral. Potable water is only found from a handful of wells near the edges of the basin with more saline water towards the center. Two of the principal sources of potable water are a long narrow 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 Providence 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 that 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 rang 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 ERP investigations. The near-surface bolsom 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 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 feet 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 Groundwater Classification Under EPA Groundwater Protection Strategy* (USEPA, 1986), the groundwater can be classified as 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 HAFB is not interconnected with surface water of a higher class.

3.6 Site Specific Geology and Hydrogeology

This section presents the site specific geology and hydrogeology for sites OT-03 and OT-45 that are included in this report.

3.6.1 OT-03 Geology and Hydrogeology

The subsurface geology for Site OT-03 was obtained from the RI Report (Radian, 1992). The report utilized borings and wells from both Site SS-02/05 and Site OT-03, because of their close proximity to each other. The drilling log from the boring at Site OT-03, indicates a silty/fill from 0-6 feet which transitions to a clay layer from 6-13 feet. The clay layer steadily increases in sand

content from 13-17 feet and from 17-25 feet the stratigraphy is mostly sand. The drilling log and monitoring well construction diagram for this site can be found in Appendix A-1-2.

The RI Report (Radian, 1992) made several observations about the local hydrogeology. The report stated that groundwater occurs in a shallow confined aquifer approximately 10 feet bgs in the silty sand deposits. The investigation found the hydraulic gradient to be approximately 2.52 x 10^{-3}. Groundwater on the north side of the site flows northeast and groundwater on the southern side of the site flows to the southeast. The general trend of the site's groundwater flow was toward Dillard Draw, to the east.

3.6.2 OT-45 Geology and Hydrogeology

The description of the Old AGE Refueling Station (OT-45) site geology is based upon 8 soil borings completed by Walk and Haydel & Associates during the RI and the 12 borings completed during this ACM field investigation. These two investigations defined subsurface conditions at site OT-45 via direct sampling and observation of drilling operations. Drilling logs and monitoring well construction diagrams for the RI can be found in Appendix A-2-2 and drilling logs for the ACM investigation can be found in Appendix B of this report. The site OT-45 lithology consists primarily of silty sands and clayey silts. The first 6 to 8 feet are primarily very fine grained silty sands, which grade into a dense clay interspersed with large angular gypsum crystals. Beneath these beds lay a thick bed of poorly graded (well sorted) sands (Walk, Haydel & Associates, 1989).

Groundwater at OT-45 occurs in silty sands in a shallow unconfined aquifer at approximately 5 ft bgs. At OT-45, there are five monitoring wells (S51-MW1, S51-MW3 through S51-MW5, and S51-MW7) that are screened from 2.0 to 4.5 feet below ground surface. In June 2007, depth to groundwater measurements ranged from 4.56 to 6.52 feet below the top of polyvinyl chloride (PVC) casing and groundwater elevations ranged from 4,064.22 to 4,065.87 feet amsl. Tables 3-1 and 3-2 of this report present the groundwater elevation data and monitoring well construction details respectively. A potentiometric surface map was prepared using the data collected on June 9, 2007 (see Figure 3-7 of this report). Groundwater flows to the southwest and the hydraulic gradient is approximately 5.56 x 10^{-3}.

3.7 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 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.

3.8 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 (Foster Wheeler, 2002).

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 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 is not expected to differ significantly from current land use practices (Foster Wheeler, 2002).

3.9 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). The nearest production well downgradient from HAFB is a livestock well located approximately 13 miles southwest of OT-45. There are no potable or irrigation wells near to or immediately downgradient of the Base (Foster Wheeler, 2002).

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

4 SOURCE CHARACTERIZATION

Based on the previous investigations described in Section 2 of this report, soil and groundwater analytical data have been collected at sites OT-03 and OT-45 since 1980. Source area characterization for these two sites has been described in the following six historical documents:

- Andreoli, R.J., 2Lt, USAF, BSC. August 1980. Letter Report regarding *Evaluation of P.O.L. Tetraethyl Lead Disposal Site.*
- Radian Corporation. June 1992. *Draft Final Remedial Investigation (RI) Report, Investigation, Study and Recommendation for 29 Waste Sites, Holloman Air Force Base, NM.*
- Dames & Moore. March 1987. *Installation Restoration Program, Phase II – Confirmation/Quantification Stage 1, Report (April 1984 to March 1985) for Holloman Air Force Base, New Mexico 88330.*
- Walk, Haydel & Associates, Inc. December 1989. *Final Remedial Investigation Report, Holloman Air Force Base, New Mexico.*
- IT Corporation. 1991. *Holloman Air Force Base Alamagordo, New Mexico Closing Report.*
- Foster Wheeler Environmental Corporation and Radian International LLC. June 1996. *Technical Memorandum Installation Restoration Sites SS-12, SD-27, and OT-45.*

The purpose of additional ACM source area characterization at site OT-45 was to collect soil and groundwater data to fill data gaps and to remove PCS through excavation. The results of the additional subsurface soil and groundwater characterization at site OT-45 (OT-03 was sufficiently characterized for PCS removal) are presented in Section 7 (Nature and Extent of Contamination) of this report. In order to determine the effectiveness of the ACM source removal at sites OT-03 and OT-45, confirmation samples were collected from the sidewalls and bottoms of the excavations at each site. The results of the confirmation sampling events are presented in Section 8 (ACM Excavation and Sampling Analytical Results) of this report.

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5 FIELD ACTIVITIES

5.1 OT-03, POL Tank Burial Site

Based upon a review of the available data and site OT-03's relatively small size, the POL Tank Burial Site has been sufficiently characterized to support excavation and removal of contaminated soil. Therefore no additional field activities or soil characterization were conducted at OT-03 prior to excavation activities. Excavation activities at this site are discussed in Section 8 of this ACM Completion Report.

5.2 OT-45, Old AGE Refueling Station

The objectives of the additional investigation at the Old AGE Refueling Station Site (OT-45) were to collect additional soil data and evaluate the current groundwater conditions of the site to support PCS removal operations. To meet the ACM investigation objectives at Site OT-45, the following activities were performed by Bhate in June 2007:

- Installed and sampled nine boreholes (OT45-DP01 through OT45-DP09) around the formerly excavated area, to delineate the extent of remaining PCS contamination for source area removal.
- A round of groundwater samples were collected from five existing monitoring wells (S51-MW1, S51-MW3 through S51-MW5, and S51-MW7).
- Analyzed soil and groundwater samples for VOCs, SVOCs, TPH, and TDS (groundwater only).
- Two geotechnical soil samples were collected from soil borings OT45-DP10 and OT45-DP11, 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 OT-45 were performed in accordance with HAFB Standard Operating Procedures (SOPs), provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003) and *Bhate Standard Operating Procedures* (Bhate, 2002), as outlined in the *Final Accelerated Corrective Measures Work Plan, Multiple Sites, Holloman Air Force Base, New Mexico* (Bhate, 2007).

5.2.1 Subsurface Soil Sampling

In June 2007, nine soil borings (OT45-DP01 through OT45-DP09) were advanced at Site OT-45 (Figure 5-1) in accordance with HAFB SOPs provided in the *Basewide Quality Assurance Project Plan* (Bhate, 2003). The soil borings were advanced using an AMS® Incorporated, Power Probe 9600, Direct Push Technology (DPT) drill rig, a five foot stainless steel core barrel, and the associated tooling. These soil borings were sampled continuously to depths between 5 to

10 feet bgs. The nine soil borings (DP01 through DP09) were advanced around the former excavation area conducted in 1991 by IT Corporation. One soil sample for chemical analysis was collected from each boring at various intervals ranging from 4 to 6 ft bgs.

Soils were visually classified in the field by a geologist according to the Unified Soil Classification System. Soils were screened using a MiniRAE® 2000 photoionization detector (PID), with soil-headspace screening techniques to aid in selecting samples for laboratory analysis. One soil sample was collected from each of the nine borings for laboratory chemical analysis, from the interval with the highest PID field screening results. In the absence of a significant PID reading the soil was collected from mid depth of the boring. Soil samples were placed in the appropriate containers, packed on ice at 4 degrees Celsius (°C), and delivered under chain-of-custody to Severn Trent Laboratories (STL) in Arvada, Colorado. The soil boring logs for this investigation are included in Appendix B of this ACM Report.

In addition, two soil samples were collected for geotechnical analysis. The samples were collected from two upgradient borings (OT45-DP10 and OT45-DP11), to provide background geotechnical data, for non-impacted soils (see Figure 5-1 of this report). Each sample was collected at approximately six feet bgs, above the water table where the lithology is representative of the site, and analyzed for dry bulk density, specific gravity, moisture content, and fractional organic carbon content. The 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.

5.2.2 Groundwater Sampling

At OT-45, in June 2007, groundwater samples were collected from the five existing wells (S51-MW1, S51-MW3 through S51-MW5, and S51-MW7) onsite which are shown on Figure 5-1. Prior to sampling, groundwater levels were collected for each monitoring well and then the wells were subsequently purged. Monitoring well purging was performed utilizing a Peristaltic Pump, clean dedicated ¼ inch polyethylene tubing, and low flow purging techniques. All of the monitoring wells were sampled using a new disposable bailer. Appendix C includes the groundwater monitoring well purging/sampling data (temperature, specific conductivity, and potential of hydrogen [pH]) collected prior to sampling. Groundwater samples were placed in the appropriate containers, packed on ice at 4 °C, and delivered under chain-of-custody to STL located in Arvada, Colorado.

5.2.3 Surveying

Sample locations were surveyed in accordance with methods described in the *Basewide Quality Assurance Project Plan* (QAPP) (Bhate, 2003). The locations, referenced with horizontal coordinates, and top of casing elevations were obtained for each monitoring well. All elevations are referenced to the North American Datum (NAD) 1983. All horizontal coordinates are referenced to the State Plane Coordinate System, New Mexico Central. Elevations and

coordinates are surveyed to the closest 0.001 foot. Table 3-1 includes the survey data and the depth to groundwater measurements collected in June 2007.

5.2.4 Equipment Decontamination

All reusable equipment associated with soil sampling was decontaminated in accordance with the HAFB SOPs provided in the *Basewide QAPP* (Bhate, 2003).

5.2.5 Waste Handling

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

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6 SITE OT-45 LABORATORY ANALYSIS AND DATA VALIDATION SUMMARY

The analysis of soil and groundwater samples collected during this investigation followed the proposed methodologies presented in the *ACM Multiple Site Work Plan* (Bhate, 2007). 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
- TPH – GRO, TPH - DRO, and TPH – oil range organics (ORO) by USEPA Method 8015B

The groundwater samples were also analyzed for:

- TDS by USEPA Method 160.1

All of the laboratory data generated as part of the additional investigation at site OT-45 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 is provided in Appendix D of this report. The Data Validation Reports are provided in Appendix E of this report. STL-Denver in Arvada, Colorado 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 (in Appendix E of this report) with the following sections providing a synopsis of each analyte group.

6.1 Volatile Organic Compounds

Methylene chloride was detected in some trip blanks. Only samples S51-MW3, S51-MW4, and S51-MW5 yielded concentrations less than 10 times the blank concentration, of this common laboratory contaminant, and were qualified as estimated, "J".

Naphthalene was detected in the method blank associated with samples OT45-DP01-6 and OT45-DP09-5. Only sample OT45-DP01-6 was qualified as estimated, "J", since the concentration in this sample was less than 5 times the blank concentration.

The laboratory control sample duplicate (LCSD) recovery for sec-butylbenzene associated with the soil samples, with the exception of OT45-DP01-6 and OT45-DP09-5, was above QC limits. The only sample that yielded a positive result for this compound (OT45-DP06-4) was qualified as estimated, "J".

A dilution of samples OT45-DP02-5a, OT45-DP03-5, OT45-DP04-4, OT45-DP05-4, and OT45-DP07-4 was required due to high concentrations of target compounds. Elevated reporting limits were reported.

6.2 Semi-volatile Organic Compounds

Bis(2-etylhexyl)phthalate was detected in the method blank associated with samples S51-MW1, S51-MW3, S51-MW4, and S51-MW5. Samples S51-MW1 and S51-MW3 yielded concentrations less than 5 times the blank concentration and were qualified as estimated, "J".

A dilution of samples OT45-DP04-4 and OT45-DP06-4 was required due to high analyte concentrations. The reporting limits were adjusted accordingly.

6.3 Total Petroleum Hydrocarbons

TPH-DRO was detected in the methods blank associated with the soil samples. All positive results greater than the method detection limit (MDL) were qualified estimated "J".

The TPH-GRO surrogate, aaa-trifluorotoluene, was above the QC limits in sample OT45-DP02-5. This compound was qualified as estimated, "J".

The TPH-DRO and -ORO surrogate, o-terphenyl, in sample OT45-DP06-4 was below the QC limits. The positive result for TPH-DRO was qualified as estimated, "J", and the non-detected result for TPH-ORO was qualified estimated non-detected, "UJ".

Due to high analyte concentrations, a dilution of samples OT45-DP03-5, OT45-DP04-4, OT45-DP05-4, OT45-DP06-4, OT45-DP07-4, and OT45-DP08-4 was required for the TPH-GRO analysis and OT45-DP04-4 and OT45-DP06-4 for the TPH-DRO and -ORO analysis. Elevated reporting limits were reported.

6.4 Total Dissolved Solids

A dilution of samples S51-MW3, S51-MW4, S51-MW7, and S51-MW7a was required due to high analyte concentrations. Elevated reporting limits were reported.

7 SITE OT-45 NATURE AND EXTENT OF CONTAMINATION

This section presents the soil and groundwater analytical results from the ACM field activities completed at Site OT-45 by Bhate in June 2007. This section also presents the current nature and extent of contamination found in the soil and groundwater during this investigation. The soil and groundwater sampling locations from this investigation are shown on Figure 5-1.

The objectives of the additional soil and groundwater sampling conducted during the ACM at Site OT-45 were to delineate the current horizontal and vertical extent of any remaining contamination, remove through excavation and properly dispose of the PCS, and collect the proper data meeting the data quality objectives to support closure of the site. The primary objective of this data collection effort was to fill in the data gaps to facilitate the removal of PCS and to collect the proper data meeting the data quality objectives (DQOs) ultimately in support of the closure of the site based on guidance from the NMED. The ultimate objective is to achieve approval for site closure from NMED. Soil, geotechnical, and groundwater analytical results collected during the additional investigation during this ACM at Site OT-45 are summarized in Tables 7-1 through 7-3. A duplicate soil sample was collected in borehole OT45-DP02 (5 ft bgs) and a duplicate groundwater sample was collected in monitoring well S51-MW7. The complete laboratory analytical results for the additional soil and groundwater sampling at OT-45 are included in Appendix D.

7.1 Soil Analytical Results

The 10 soil samples (including one duplicate) collected from soil borings OT45-DP01 through OT45-DP09 during the ACM investigation were analyzed for VOCs, SVOCs, and TPH (DRO, GRO, and ORO). The subsurface soil samples collected during the OT-45 ACM investigation were collected from various depths between 4 to 6 feet bgs. The last digit of the sample identification number indicates the bottom of the sample interval; the OT-45 analytical results for soil are summarized in Table 7-1 and the boring locations with selected results are shown on Figure 7-1 of this report.

Twenty different VOCs were detected above the method detection limits in the 10 soil samples collected during the June ACM field investigation. Maximum concentrations of only 2 of these VOCs, ethylbenzene (130,000 µg/kg) and total xylenes (98,000 µg/kg) exceeded their respective NMED SSLs (NMED, 2006a). The ethylbenzene exceedance was in soil boring OT45-DP04 at 4 feet bgs, while total xylenes exceeded the SSL in soil boring OT45-DP03 at 5 feet bgs.

Low concentrations of five SVOCs were also detected. The maximum concentrations of bis(2-ethylhexyl)phthalate (440 J [estimated] µg/kg), dibenzofuran (220 J µg/kg), fluorene (77 J µg/kg), 2-methylnaphthalene (4,000 µg/kg), and naphthalene (1,800 µg/kg) were all well below there respective SSLs (NMED, 2006a). All other SVOCs were not detected at Site OT-45.

TPHs were analyzed for GRO ($C_6 - C_{10}$), DRO ($C_{10} - C_{22}$), and ORO ($>C_{22} - C_{36}$). The TPH-DRO fraction was detected in the method blanks associated with each of the OT-45 soil samples,

therefore all positive TPH-DRO results greater than the method detection limit have been qualified by the laboratory (STL) with a "B". In turn, these samples have been qualified, per the USEPA National Functional Guidelines, by the validating chemist as estimated "J" (see Data Validation Reports in Appendix E of this report). The TPH-GRO fraction was detected in every sample ranging from 0.51 J mg/kg (OT45-DP09-5) 13,000 mg/kg (OT45-DP04-4). And the TPH-ORO fraction was not detected in any of the 10 soil samples collected at the site. Furthermore, in soil borings OT45-DP03 through OT45-DP08 the combined TPH-DRO and GRO concentrations exceeded the current NMED TPH screening guidelines for Unknown oil (800 mg/kg) (NMED, 2006b).

7.2 Groundwater Analytical Results

The six groundwater samples (including one duplicate) collected from S51-MW1, S51-MW3 through S51-MW5, and S51-MW7 were analyzed for VOCs, SVOCs, and TDS. The analytical results are presented in Table 7-3 and the monitoring well locations with selected results are shown on Figure 7-2.

Sixteen VOCs were detected above the method detection limit in the six groundwater samples collected at OT-45. Trichloroethene was the only VOC detected above it's respective USEPA MCL and/or the NMWQCC screening level. Trichloroethene was detected, in the upgradient monitoring well S51-MW3, with a concentration of 6.5 µg/L, slightly above the USEPA MCL (5 µg/L). This suggests a potential ugradient source of the trichloroethene that is not a result of the former Old AGE fueling station leak. Figure 7-2 illustrates the location of monitoring well S51-MW3 in relationship to Site OT-45.

The only SVOC detected in the six groundwater samples collected at OT-45 was bis(2-ethylhexy)phthalate. These low estimated concentrations of bis(2-ethylhexy)phthalate were due to method blank contamination and were subsequently qualified by the validating chemist with a "J", per the USEPA National Functional Guidelines.

TDS concentrations ranged from 3,200 mg/L (S51-MW1) to 23,000 mg/L (S51-MW3) and exceeded the NMWQCC standard of 1,000 mg/L at each well. TDS concentrations below 10,000 mg/L at Site OT-45 are most likely due to leaking water lines which run along the Delaware Avenue adjacent to the site and then cut directly across the center of the site. S51-MW3 has the highest TDS concentration and is the upgradient well at the site which most likely represents the background TDS values at Site OT-45.

8 ACM EXCAVATION AND SAMPLING ANALYTICAL RESULTS

This section describes the PCS excavation, site restoration, and soil disposal activities that were conducted at Sites OT-03 and OT-45. This section also describes the confirmation soil sampling conducted along the sidewalls and floor bottoms of each excavation along with the results of the stockpile sampling.

To determine the effectiveness of the ACM Remedial Action, confirmation soil samples were collected from the sidewalls and bottoms of the excavations at a frequency of 2 samples per 18 linear feet of sidewall. Soil samples were collected from the stockpiled soil (approximately 1 per 100 cubic yards) to determine the appropriate classification of the soil. These soil samples were submitted to Associated Laboratories in Orange, California for off-site laboratory analysis.

Confirmation soil samples were collected from the sidewalls of each excavation. Based on current direction from NMED, soil samples were also collected from the bottom of each excavation as both of these excavations were terminated above the water table. Summary tables presenting the results of the confirmation and stockpile sampling are presented in Tables 8-1 through 8-3. The sample depth and location (sidewall or excavation floor bottom) for each sample is included in these tables. Excavation confirmation locations at each site are shown on Figures 8-1 and 8-2. Excavation confirmation samples and stockpile samples were analyzed by the off-site laboratory for the following:

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

The results of the laboratory analyses were reviewed and compared to the current NMED SSLs (NMED, 2006a). TPH concentrations were compared to the current NMED TPH Screening Guidelines (NMED, 2006b) for unknown oil (800 mg/kg). A summary of the excavation, confirmation, and stockpile soil sampling activities at each site (OT-03 and OT-45) are presented in Sections 8.1 and 8.2 of this report. Sections 8.1.3 and 8.2.3 describe the transportation and disposal of impacted/contaminated soil and Sections 8.1.4 and 8.2.4 describe the site restoration activities.

The excavation boundaries for OT-03 and OT-45 are depicted on Figures 8-1 and 8-2 respectively. These figures also present the locations of the confirmation soil samples that were collected from each excavation area. The complete laboratory analytical results for the confirmation and stockpile soil sampling are included in Appendix D. Summary tables presenting the confirmation and stockpile soil data are presented in Tables 8-1 through 8-3.

8.1 OT-03 Excavation

Subsurface excavation operations for PCS began at OT-03 in August 2007 and excavated soil was stockpiled along the edge of the pit. The approximate area of the final excavation at OT-03 was 100 square feet to an average depth of 9 feet bgs. Figure 8-1 shows the boundaries of the

excavated area. The calculated volume removed from the OT-03 excavation was approximately 25 cubic yards. Five confirmation soil samples were collected from the sidewalls around the perimeter (OT-03-SW-N-5, -E-5, -W-5, and -S-5) and on the floor bottom (OT-03-SW-B-9) of the excavation (Figure 8-1). Additionally, three samples of stockpiled soil from spoils at OT-03 were collected for laboratory analysis.

8.1.1 Excavation Confirmation Soil Sampling Results

Confirmation samples were collected at a total of 5 locations from the sidewalls along the perimeter and on the floor bottom of the OT-03 excavation (Figure 8-1). Samples were collected according to the protocol presented in Section 4.3.3.3 of the *Final Accelerated Corrective Measures Work Plan, Multiple Sites, Holloman AFB, New Mexico* (Bhate, 2007). These 5 confirmation samples collected during the excavation were analyzed for VOCs, SVOCs, and TPH (GRO, DRO, and ORO). A summary of the results for the OT-03 excavation confirmation samples are presented in Table 8-1.

No VOCs were detected above the method detection limits, and only one SVOC (diethylphthalate) was detected in the 5 confirmation samples collected. The singular detection of diethylphthalate (1,800 µg/kg), at 5 ft bgs in sidewall sample OT-03-SW-N-5, was well below the NMED SSL (NMED, 2006a). Additionally, TPH were analyzed for GRO ($C_6 - C_{10}$), DRO ($C_{10} - C_{22}$), and ORO ($>C_{22} - C_{36}$). Low estimated concentrations of TPH-ORO were detected in 2 of the sidewall samples (OT-03-SW-S-5 and –W-5) with a maximum concentration of 4.5 J mg/kg (OT-03-SW-W-5). TPH-DRO was detected in only one of the samples at a concentration of 1.2 mg/kg (OT-03-SW-E-5). The TPH-GRO fraction was not detected above the method detection limit in any of the confirmation samples. Therefore, the combined TPH concentrations at all of the confirmation samples were well below the TPH screening guidelines for unknown oil (800 mg/kg) (NMED, 2006b).

8.1.2 Stockpile Analytical Results

After soil was excavated it was stockpiled onsite near the excavation. Three stockpile soil samples were collected, one sample was collected from stockpiled soil suspected of containing PCS, and two samples were collected from the overburden. The stockpile samples (OT-03-SP-OB-1, OT-03-SP-OB-RS, and OT-03-SP-PCS-1) were analyzed for TPH (GRO, DRO, and ORO [Method 8015B]), VOCs (Method 8260B), and SVOCs (Method 8270C). Additionally, stockpile samples OT-03-SP-OB-1 and OT-03-SP-PCS-1 were analyzed for Ignitability (Method 1030) and stockpile sample OT-03-SP-OB-RS was analyzed for Lead, Toxicity Characteristic Leaching Procedure (TCLP [Method 1311/6010]), to characterize the stockpiled soil prior to transportation to the Rhino disposal facility. A summary of the laboratory results for the OT-03 excavation stockpile samples are included in Table 8-2.

An estimated concentration of xylenes (total) was the only VOC detected in the stockpile samples, and no SVOCs were detected above the method detection limits. Furthermore, the maximum combined TPH- GRO and DRO (ORO was not detected) concentration (87.17 mg/kg)

detected in the sample suspected of containing PCS was well below the TPH screening guidelines for unknown oils (800 mg/kg) (NMED, 2006b).

For offsite disposal the stockpile was analyzed for lead, utilizing the TCLP procedure, and for Ignitability. Lead was not detected in the stockpile and the Ignitability or Burn Rate of the soil was below 2.2 millimeters per second (mm/sec).

8.1.3 PCS Transportation and Disposal

Once the stockpile soil results confirmed the PCS was non-hazardous and suitable for disposal at the Rhino landfarm facility, the soil was loaded into dump trucks for transportation. Rhino transported and disposed of approximately 25 cubic yards of PCS from the OT-03 excavation at their facility south of HAFB on October 4, 2007. The waste manifest for the contaminated soil sent offsite to Rhino is presented in Appendix F of this report.

8.1.4 Site Restoration

Site restoration activities at site OT-03 included backfilling the excavation with clean soil from the HAFB FT-31 Landfarm. The backfill was compacted with a trackhoe and the excavation was graded to existing surface topography and slightly arched to provide drainage for storm water run-off. No sidewalks, roads, or landscaped areas were affected.

8.2 OT-45 Excavation

Subsurface excavation operations for PCS removal began at Site OT-45 in February 2008. Excavated soil was stockpiled along the edge of the excavated area. The approximate area of the final excavation at OT-45 was 8,000 square feet to an average depth of 10 feet bgs. Figure 8-2 shows the boundaries of the excavated area. The calculated volume removed from the excavation was approximately 2,875 cubic yards. Fifty-one sidewall confirmation soil samples were collected from around the perimeter of the excavation and three confirmation soil samples were also collected from the floor of the excavated pit. The sample locations are shown on Figure 8-2.

8.2.1 Excavation Confirmation Soil Sampling Results

Confirmation samples were collected at a total of 54 locations from the sidewalls along the perimeter and the bottom of the OT-45 excavation (see Figure 8-2). Samples were collected according to the protocol presented in Section 4.3.3.3 of the *Final Accelerated Corrective Measures Work Plan, Multiple Sites, Holloman AFB, New Mexico* (Bhate, 2007). The 51 sidewall samples and 3 bottom confirmation samples collected during the excavation were analyzed for VOCs, SVOCs, and TPH (GRO, DRO, and ORO). A summary of the results for the OT-45 excavation confirmation samples are presented in Table 8-3.

Thirteen VOCs and two SVOCs were detected above the method detection limits in the 54 confirmation soil samples collected during the ACM excavation event. The highest VOC and SVOC concentrations were found in sidewall samples OT45-SW6, -SW10a, -SW24, and -SW25.

However, all of these detected concentrations were well below their respective SSLs (NMED, 2006a).

TPH were analyzed for GRO ($C_6 - C_{10}$), DRO ($C_{10} - C_{22}$), and ORO ($>C_{22} - C_{36}$). Each TPH fraction (GRO, DRO, and ORO) were all detected in at least one of the samples. However, the maximum combined TPH-GRO, DRO, and ORO concentration detected at OT45-SW10a (722 mg/kg) was just below the NMED TPH screening guideline for an unknown oil (800 mg/kg) (NMED, 2006b). Although below the NMED TPH screening guidelines, four excavation sample locations (OT45-SW09a, -SW10, -SW10a, and -SW11) were over excavated to ensure the complete removal of PCS. Figure 8-2 depicts the additionally excavated area that was removed and sampled around the sidewall samples that had elevated TPH results.

8.2.2 Stockpile Analytical Results

Due to the nature of the shallow soil contamination, none of the excavated soils were stockpiled or characterized for clean backfill. All the soils excavated were petroleum contaminated or suspected to be contaminated and were loaded directly for disposal offsite (to minimize contamination of the site) at either the HAFB FT-31 landfarm or at the Rhino disposal facility. Details of the transportation and disposal of the petroleum contaminated and suspected contaminated soils from OT-45 are discussed in Section 8.2.3 of this ACM report.

8.2.3 PCS Transportation and Disposal

Rhino Environmental Services Incorporated (Rhino) transported approximately 1,500 cubic yards (1,700 tons) of non-hazardous PCS, to their offsite disposal facility south of HAFB, on February 7 through 20, 2008. The waste manifests for the contaminated soil sent to the Rhino disposal facility from OT-45 are presented in Appendix F. In addition, Bhate transported approximately 1,376 cubic yards of additional PCS from the OT-45 site to the HAFB FT-31 Landfarm on February 25 through 29, 2008. Truck logs for the contaminated soil transported to the FT-31 Landfarm from OT-45 are presented in Appendix F of this report.

8.2.4 Site Restoration

Site restoration activities at site OT-45 included backfilling the excavation with clean soil from the HAFB FT-31 Landfarm. The backfill was compacted with a trackhoe and the excavation was graded to existing surface topography. The portion of the parking area that was removed was re-asphalted, the sidewalks and gutters were replaced according to the Unified Facilities Guide Specifications (UFGS) Guide Specification for Construction, Section 02770A *Concrete Sidewalks and Curbs and Gutters* (UFGS, 2004), and the disturbed landscaping was replaced to match previous conditions.

9 OT-45 RISK BASED EVALUATION

This section presents the methodology used for risk evaluation at Site OT-45. The methodology consists of the following:

1. Compilation of data (refer to Section 9.1);
2. Identification of chemicals of potential concern (COPCs) (refer to Section 9.2);
3. Development of exposure model (EM) (refer to Section 9.3);
4. Identification of target levels (refer to Section 9.4);
5. Calculation of representative concentrations (refer to Section 9.5); and
6. Comparison of representative concentrations with target levels (refer to Section 9.6).

Each of the above steps is presented below.

9.1 Compilation of Data

Following is the soil data available for Site OT-45:

Date	Soil Borings/Excavation Sample Locations	No. of Borings/Excavation Sample Locations	Total No. of Samples
June 2007	OT45-DP01-6 through OT45-DP09-5	9	10*
June 2007	OT45-DP10-5 and OT45-DP11-5	2	2**
February 2008	OT45-SW1 through OT45-SW-32***	32	51****
February 2008	OT45-Bottom 1 through OT45-Bottom 3	3	3

Notes:

* One duplicate sample was collected at OT45-DP02. In addition, all soil borings were excavated during the February 2008 soil remediation activities except for OT45-DP01-6.

** Samples were collected and analyzed for geotechnical parameters. The results for geotechnical parameters are presented in Table 7-2.

*** OT45-SW9a, OT45-SW10, OT45-SW10a, and OT45-SW11 were over excavated and were not used for the risk assessment.

**** Seven additional confirmation samples were collected and used for the risk assessment from sidewall samples: SW1a, SW2a, SW4a, SW5a, SW6a, SW7a, and SW11a. Ten additional sidewall samples collected from an area that was over excavated near OT45-SW10 (OT45-10A-OE-1 through OT45-10A-OE10) and were also used for the risk assessment.

For this evaluation, only chemicals with at least one detected concentration were considered for the risk assessment (RA). Site-specific detected chemicals and associated laboratory analytical data for soil are provided on Table 9-1(a). Table 9-1(a) presents the data based on the following criteria:

- Soil samples collected prior to June 2007 were not used since (i) those are too old; and (ii) samples collected in June 2007 and February 2008 are more representative of current conditions.
- In February 2008, impacted soils at OT-45 were excavated and confirmation samples were collected; therefore, only analytical data from sample location OT45-DP01-6 (not located in excavation area), and sidewall and bottom confirmation samples were used for the RA.

- Geotechnical data from OT45-DP10-5 and OT45-DP11-5 were reviewed for the use in the RA and are further described in Section 9.4.1.5.

Following is the groundwater data available for Site OT-45:

Monitoring Well	No. of Sampling Events	Sampling Date
S51-MW1	1	June 2007
S51-MW3	1	June 2007
S51-MW4	1	June 2007
S51-MW5	1	June 2007
S51-MW7	1	June 2007

Note:
* One duplicate sample was collected at S51-MW7

In groundwater, only detected chemicals were considered for the RA. Site-specific detected chemicals and associated laboratory analytical data for groundwater are provided on Table 9-1(b). Table 9-1(b) presents the data based on the following criteria:

- Groundwater samples collected prior to June 2007 were not used since (i) those are too old; and (ii) samples collected in June 2007 are more representative of current conditions.

The above compiled soil and groundwater data were evaluated for use in this RA as follows:

- Conservatively, data with laboratory qualifiers "B", "Q", and "J" were considered as detected concentrations.
- TPH results reported in two fractions (TPH-DRO (C10 – C22) and TPH-ORO (>C22 – C36)) were added as follows and are shown as TPH (C10 – C36):
    - If two fractions contained detectable concentrations, the sum of the two was taken and considered as detected;
    - If one of the samples contained a detectable concentration, the non-detect was replaced with ½ the detection limit and sum of the two fractions was taken and considered as detected; and
    - If the two fractions had concentrations below the detection limits, the sum of ½ the detection limits was taken and the sample was considered as non-detect.
- The original sample and the duplicate sample 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 detectable concentration and the other was non-detect, the non-detect was replaced with ½ the detection limit and average of the two were taken and considered as detected; and
    - If both samples had concentrations below the detection limits, the average of the two detection limits was taken and the sample was considered as non-detect.
- Naphthalene was reported using two analytical methods under VOCs and SVOCs. These two results were averaged as per the methodology used for duplicate sample discussed above.

- Xylenes were reported as total-xylenes and irregularly as o-xylene and m- & p-xylene. Since total-xylene is comprised of o-, m-, and p-xylenes, only total xylenes results were used in the RA.

Based on the above considerations, Tables 9-2(a) and 9-2(b) present the soil and groundwater data used for the RA, respectively.

9.2 Identification of Chemicals of Potential Concern

The chemicals that were detected in soil or groundwater samples were considered as COPCs and are included in this RA. The COPCs are presented in Table 9-3. In all, 19 chemicals in soil and 16 chemicals in groundwater are included.

9.3 Development of Exposure Model

This section presents the EM for the Site OT-45. The EM identifies the potential receptors and the exposure pathways under current and anticipated future conditions.

9.3.1 Receptors

Current receptors consist of one operational support staff building, parking areas, and scattered landscaping. The current receptor use is limited to commercial/industrial workers.

As discussed in Section 3.7 of this report, residential development at the Site OT-45 is limited and future land use is expected to be commercial/industrial. Therefore, the commercial/ industrial worker is considered a receptor of concern under current and future conditions. Additionally, in the future construction activities may occur, hence potential a future construction worker is also considered a receptor of concern.

9.3.2 Exposure Pathways

Tables 9-4(a), 9-4(b), and 9-4(c) present the EMs for the current and potential future commercial/industrial worker and potential future construction worker, respectively. Of the various complete exposure pathways, outdoor inhalation from subsurface soil and from groundwater for commercial/industrial worker was not quantified since indoor inhalation is being considered and is the more critical pathway.

As per the NMED regulations (NMAC 20.6.2.3103), groundwater zones where TDS concentrations exceed 10,000 mg/L are considered non-potable and are not required to meet the NMWQCC standards. Groundwater zones where the TDS concentrations are less than 10,000 mg/L are required to meet the NMWQCC standards.

High TDS data has been found throughout the HAFB and the groundwater has been classified as Class III B. The TDS data collected from monitoring well S51-MW3 is above 10,000 mg/L, whereas the other four monitoring well concentrations were below 10,000 mg/L (see Table 7-3). The lower TDS concentrations have been attributed to leaking water lines and surface irrigation

from domestic water supply. Therefore, the shallow groundwater is not considered potable and the groundwater pathway is considered incomplete, see Section 3.5 of this report for additional details regarding TDS concentrations at HAFB.

The complete exposure pathways that were quantitatively evaluated are summarized below:

For current commercial/industrial workers:

- Indoor inhalation of vapors from subsurface soil; and
- Indoor inhalation of vapors from groundwater.

For future commercial/industrial workers:

- Indoor inhalation of vapors from subsurface soil; and
- Indoor inhalation of vapors from groundwater.

For future construction workers:

- Dermal contact with soil to depth of construction;
- Ingestion of soil to depth of construction;
- Outdoor inhalation of vapors or particulates from soil to depth of construction;
- Dermal contact with groundwater; and
- Outdoor inhalation of vapors from groundwater.

For the exposure pathways from soil, dermal contact with, ingestion of, and outdoor inhalation of vapors or particulates from soil were evaluated as the combined pathways from soil.

9.4 Identification of Target Levels

This section discusses the target levels for the complete exposure pathways identified in Section 9.3.2 of this report. For the following exposure pathway and receptor combinations, target levels for soil and groundwater were obtained from the following sources:

- **Indoor inhalation of vapors from subsurface soil and groundwater for commercial/industrial workers:** The Johnson & Ettinger (J&E) model (USEPA, 2004a) was used to develop the target levels for indoor inhalation of vapors from subsurface soil and groundwater for commercial/industrial workers. The use of the J&E model was necessary because the *Technical Background Document for Development of Soil Screening Levels, Revision 4.0* (NMED, 2006a) does not include the indoor inhalation pathway. The details of development of target levels for this pathway and receptor combination are discussed in Section 9.4.1 of this report.
- **Combined pathways from soil for construction workers:** The NMED SSLs for construction workers were used (NMED, 2006a). For TPH (C10 – C36), the SSL is as per the *NMED TPH Screening Guidelines* (NMED, 2006b). Two chemicals (p-isopropyltoluene (cymene) and 2-methylnaphthalene) did not have NMED SSLs; therefore, the SSLs were calculated using the methodology included in the *Technical Background Document for Development of Soil Screening Levels, Revision 4.0* (NMED, 2006a) for construction workers. Toxicity values and physical/chemical properties used

to develop the target levels for p-isopropyltoluene (cymene) and 2-methylnaphthalene are presented in Table 9-5.

- **Dermal contact with groundwater for construction workers:** The target levels for dermal contact with groundwater for construction workers were developed as per the *Risk Assessment Guidance for Superfund* [RAGS] *Volume I, Part E Supplemental Guidance for Dermal Risk Assessment* (USEPA, 2004b). The details of development of target levels for this pathway and receptor combination are discussed in Section 9.4.2 of this report.
- **Outdoor inhalation of vapors from groundwater for construction workers:** The target levels for outdoor inhalation of vapors from groundwater for construction workers were developed as per the *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (American Society for Testing and Materials [ASTM], 1995). The details of development of target levels for this pathway and receptor combination are discussed in Section 9.4.3 of this report.

Table 9-6 presents the target levels for soil and groundwater for the above exposure pathway and receptor combinations.

9.4.1 Target Levels for Indoor Inhalation Pathways

This section describes the procedure used to calculate the risk-based target levels for the indoor inhalation of vapors from subsurface soil and groundwater for a commercial/industrial worker using the J&E model (USEPA, 2004a). The target levels for this pathway and receptor combination were developed only for the volatile chemicals. As per the USEPA (2004a), 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 its molecular weight is 200 grams per mole (g/mole) or less.

Specifically, the calculation of risk-based target levels requires the following:

- Toxicity parameters
- Physical and chemical parameters
- Exposure factors
- Source parameters
- Geotechnical parameters
- Building parameters
- Target risk levels

Each of these is discussed below.

9.4.1.1 Toxicity Parameters

The toxicity of chemicals with carcinogenic adverse health effects associated with inhalation exposure is quantified using unit risk. For chemicals that cause non-carcinogenic adverse health effects, toxicity associated with inhalation exposure is typically quantified by reference concentration. The chemical-specific toxicity parameters for the COPCs used are the default

values from the USEPA spreadsheet implementation of the J&E model and are presented in Table 9-7(a).

9.4.1.2 Physical and Chemical Parameters

The development of risk-based target levels requires physical and chemical properties of the COPCs. The chemical-specific physical and chemical parameters for the COPCs used are the default values from the USEPA spreadsheet implementation of the J&E model and are presented in Table 9-7(a). Two chemicals (2-chlorotoluene and p-isopropyltoluene [cymene]) were not listed in the J&E model; therefore, required physical and chemical properties were taken from the *Texas Risk Reduction Program* [TRRP] *Rule Tables* (Texas Commission on Environmental Quality [TCEQ], June 2007). Additionally, Henry's Law constants were assumed to remain at 25 °C for the modeling of these two chemicals.

9.4.1.3 Exposure Factors

Exposure factors describe the physiological and behavioral characteristics of the receptors. The receptor-specific exposure factors and their values used to evaluate the risk-based target levels are presented in Table 9-7(b). The exposure factors were obtained from the *Technical Background Document for Development of Soil Screening Levels, Revision 4.0* (NMED, 2006a). For Site OT-45, the site-specific receptor considered for the indoor inhalation pathway is a commercial/industrial worker.

9.4.1.4 Source Parameters

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

- **Average soil temperature:** For New Mexico, the range of groundwater temperature is 52 to 62 °F (USEPA, 2004a). The groundwater temperature of 62 °F (17 °C) was considered as the approximate soil temperature.
- **Depth below grade to top of contamination:** For volatile COPCs, the detected concentrations were observed from the soil samples collected from 5 ft bgs along the sidewalls and 7 ft bgs along the bottom of the excavation (only 3 bottom samples were collected). Therefore, an average depth of 5 ft (152.4 cm) was used for the depth below grade to top of contamination.
- **Depth below grade to water table:** A depth to water table of 5.6 ft (169.8 cm) was used for the depth below grade to top of contamination.

These parameters are presented in Table 9-7(c).

9.4.1.5 Geotechnical Parameters

The following geotechnical parameters are required to evaluate indoor inhalation of vapors.

- Soil dry bulk density;

- Soil total porosity;
- Soil water-filled porosity; and
- Soil organic carbon fraction.

For Site OT-45, the site-specific geotechnical parameters were analyzed for the vadose zone soil (see Table 7-2). However, default dry bulk density, total porosity, and water-filled porosity values for sandy clay loam soil type as per the USEPA (2004a) were used because the estimated volumetric water-filled porosity exceeds the estimated total porosity as per the calculation below:

$$n = 1 - \frac{\rho_b}{\rho_s} = 1 - \frac{1.55}{1.9} = 0.18$$

$$\theta_{wv} = \theta_{wg} \times \frac{\rho_b}{\rho_l} = 0.1215 - \frac{1.55}{1} = 0.19$$

Where:

n	=	Total porosity (cm^3/cm^3)
ρ_b	=	Soil dry bulk density (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)
θ_{wg}	=	Gravimetric water-filled porosity (g/g)

These types of discrepancies are often observed at such sites due to significant variability in the geotechnical parameters. As per Section 3.5.2 of this report, the vadose zone soil type for Site OT-45 is silty sand and clayey silts. The site-specific value of 0.00395 was used for organic carbon fraction. These geotechnical parameters are presented in Table 9-7(c).

9.4.1.6 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
- Average vapor flow rate into building

For depth below grade to bottom of enclosed space floor, the default value of 15 cm for slab-on-grade construction was considered (USEPA, 2004a). Enclosed space height of 10 feet (305 cm) was used based on professional judgment. The enclosed space air exchange rate of 20 times per day (0.83 per hour) was used based on the value for commercial buildings presented in the *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (ASTM,

1995). For other building parameters, default values in the USEPA spreadsheet were used. These values are presented in Table 9-7(c).

9.4.1.7 Target Risk Levels

The target risk for carcinogenic of 1×10^{-5} and target hazard quotient (HQ) of 1.0 (NMED, 2006a) were used to develop the risk-based target levels for indoor inhalation pathways.

The above input parameters were used to calculate the target levels for indoor inhalation of vapors from subsurface soil and groundwater by commercial/industrial workers. Those values are presented in Table 9-6.

9.4.2 Target Levels for Dermal Contact with Groundwater

This section describes the procedure used to calculate the risk-based target levels for the dermal contact with groundwater for a construction worker as per the *RAGS Volume I: Human Health Evaluation Manual Part E Supplemental Guidance for Dermal Risk Assessment* (USEPA, 2004b).

Specifically, the calculation of risk-based target levels requires the following:

- Toxicity parameters
- Chemical-specific parameters for dermal contact with water
- Exposure factors
- Target risk levels

Each of these is discussed below.

9.4.2.1 Toxicity Values

Dermal toxicity values are not readily available and in the absence of direct measurement of dermal toxicity, use of oral toxicity values is considered an acceptable alternative by the USEPA. Therefore, the oral toxicity values were used and are presented in Table 9-8(a).

9.4.2.2 Chemical-Specific Parameters for Dermal Contact with Water

The development of risk-based target levels requires parameters for dermal contact pathways. The chemical-specific parameters for dermal contact pathways are presented in Table 9-8(a).

9.4.2.3 Exposure Factors

The exposure factors for dermal contact with groundwater for a construction worker are presented in Table 9-8(b).

9.4.2.4 Target Risk Levels

The target risk for carcinogenic of 1×10^{-5} and target HQ of 1.0 (NMED, 2006a) were used to develop the risk-based target levels for dermal contact with groundwater.

The above input parameters were used to calculate the target levels for dermal contact with groundwater by a construction worker. Those values are presented in Table 9-6.

9.4.3 Target Levels for Outdoor Inhalation of Vapors from Groundwater

This section describes the procedure used to calculate the risk-based target levels for the outdoor inhalation of vapors from groundwater for a construction worker as per the *Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites* (ASTM, 1995).

Specifically, the calculation of risk-based target levels requires the following:

- Toxicity parameters
- Physical and chemical properties
- Exposure factors
- Fate and transport parameters
- Target risk levels

Each of these is discussed below.

9.4.3.1 Toxicity Parameters

The inhalation toxicity values for COPCs are presented in Table 9-9(a).

9.4.3.2 Physical and Chemical Properties

The physical and chemical properties for COPCs are presented in Table 9-9(a).

9.4.3.3 Exposure Factors

The exposure factors for outdoor inhalation of vapors from groundwater for a construction worker are presented in Table 9-9(b).

9.4.3.4 Fate and Transport Parameters

The fate and transport parameters for outdoor inhalation of vapors from groundwater for a construction worker are presented in Table 9-9(c).

9.4.3.5 Target Risk Levels

The target risk for carcinogenic of 1×10^{-5} and target HQ of 1.0 (NMED, 2006a) were used to develop the risk-based target levels for outdoor inhalation of vapors from groundwater for a construction worker.

The above input parameters were used to calculate the target levels for outdoor inhalation of vapors from groundwater by construction worker. Those values are presented in Table 9-6.

9.5 Calculation of Representative Concentrations

The maximum detected soil concentrations were obtained from the data used for RA (Table 9-2(a)). These maximum detected soil concentrations were compared with the soil target levels (Table 9-10(a)).

The maximum detected groundwater concentrations were obtained from the data used for RA (Table 9-2(b)). These maximum detected groundwater concentrations were compared with the groundwater target levels (Table 9-10(b)).

The use of maximum concentration is very conservative because (i) the calculation of SSLs assumes long-term exposures; and (ii) the models used to develop SSLs assume average concentration over the exposure domain and not a single point concentration.

For the chemicals whose maximum detected concentration exceeded the target levels, the average concentrations were compared with the target levels. The average concentrations are more representative of the concentrations and consistent with the assumptions inherent in the models. To calculate the average concentrations, the non-detect values were replaced with ½ the detection limits.

9.6 Comparison of Representative Concentrations with Target Levels

The comparison of maximum soil detected concentrations with soil target levels is presented in Table 9-10(a). The maximum detected 1,2,4-trimethylbenzene and benzene soil concentrations exceeded the soil target levels for indoor inhalation of vapors from subsurface soil for commercial/industrial worker. For all other COPCs, the maximum detected soil concentrations did not exceed the soil target levels.

For both 1,2,4-trimethylbenzene and benzene, the maximum soil concentrations exceeded the target levels and the average concentrations were calculated (Table 9-11(a)). Conservatively, ½ the detection limit was used to replace non-detected values when calculating the average concentrations of 1,2,4-trimethylbenzene and benzene. The average concentrations were compared with target levels and these comparisons are presented in Table 9-11(b). The table shows that the average soil concentrations of 1,2,4-trimethylbenzene and benzene do not exceed the target levels for indoor inhalation of vapors from subsurface soil for commercial/industrial workers. Therefore, the current soil concentration is protective of current and future on-site commercial/industrial workers and future on-site construction workers.

The comparison of maximum groundwater detected concentrations with groundwater target levels are presented in Table 9-10(b). The maximum detected groundwater concentrations for all COPCs did not exceed the target levels for groundwater. Therefore, the current groundwater concentration is protective of future on-site commercial/industrial workers and future on-site construction workers.

10 CONCLUSIONS AND RECOMMENDATIONS

10.1 OT-03 Conclusions and Recommendations

PCS from the POL Tank Sludge Burial Site (OT-03) was excavated and transported for offsite disposal in August 2007. Confirmation soil samples collected from the sidewalls and bottom of the excavation at site OT-03 provide documentation of the complete removal of soil containing petroleum hydrocarbons, VOCs, or SVOCs in excess of the NMED SSLs. The PCS excavated was transported offsite to the HAFB FT-31 Landfarm for treatment and disposal. Imported clean material for the HAFB FT-31 Landfarm was used to backfill the excavation and the surface conditions were restored to the original condition.

Based upon the previous site characterization and documentation of the additional excavation and disposal provided; No Further Action is recommended for the POL Tank Sludge Burial Site. NFA for Site OT-03 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."*

10.2 OT-45 Conclusions and Recommendations

Additional PCS from the Old AGE Refueling Station (OT-45) was excavated and transported for offsite disposal in February 2008. Confirmation soil samples collected from the sidewalls and the bottom of the excavation at OT-45 provide documentation of the complete removal of soil containing petroleum hydrocarbons, VOCs, or SVOCs in excess of the NMED SSLs. The PCS excavated was transported offsite to both the HAFB FT-31 Landfarm and the Rhino Disposal Facility for treatment and disposal. Imported clean material for the HAFB FT-31 Landfarm was used to backfill the excavation and surface conditions were restored to match the original conditions at the site.

With the exception of, one singular detection of trichloroethene in monitoring well S51-MW3 (6.5 µg/L), no VOCs, SVOCs, or petroleum hydrocarbons exceeded the NMWQCC groundwater guidelines or USEPA MCLs, at site OT-45. Based on Figure 7-2, this singular detection of trichloroethene slightly above the USEPA MCL (5 µg/L), suggests a potential upgradient contaminant source that is not associated with the former Old AGE Refueling Station. As a result of this detection of trichloroethene above the USEPA MCL, a risk based assessment (covered in Section 9 of this report) was performed for potential future commercial/industrial workers and construction workers.

The maximum detected soil and groundwater concentrations were compared with the soil target levels and groundwater target levels respectively. Although trichloroethene slightly exceeded the USEPA MCL, the maximum detected groundwater concentration did not exceed the groundwater target levels for trichloroethene or any of the other COPCs. The maximum detected 1,2,4-trimethylbenzene and benzene concentrations in soil exceeded the target levels for indoor

inhalation of vapors from subsurface soil by commercial/industrial workers. However, the average soil concentrations of 1,2,4-trimethylbenzene and benzene did not exceed the target levels for indoor inhalation of vapors from subsurface soil by commercial/industrial workers. Therefore, the current soil and groundwater concentrations are protective of the current and future commercial/industrial workers and future construction workers.

Based upon the sampling, laboratory groundwater analytical results, the risk based assessment, and documentation of the additional excavation and disposal provided; No Further Action is recommended for the Old AGE Refueling Station Site. NFA for site OT-45 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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ATTACHMENT A

NMED CORRESPONDENCE

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 30, 2007

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

RE: NOTICE OF DEFICIENCY: ACCELERATED CORRECTIVE MEASURES WORK PLAN, MULTIPLE SITES, NOVEMBER 2006
HOLLOMAN AIR FORCE BASE, NM6572124422
HAFB-07-001

Dear Ms. Hartell:

The New Mexico Environment Department (NMED) has reviewed the November 2006 *Accelerated Corrective Measures Work Plan, Multiple Sites* (Work Plan) addressing the following Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at Holloman AFB (the Permittee): SWMU 114 (OT-03), SWMU 113A (OT-20), SWMU PRI-A (OT-32), SWMU PRI-2/5 (OT-35), SWMU 137 (SS-38), AOC-O (OT-45), AOC-R (SS-06), AOC-K (SS-12), AOC-H (SS-18), SWMU 111 (RW-42) and AOC-L (OT-37). The Permittee must address the following deficiencies before NMED can make a final determination regarding approval of the Work Plan.

1. **Page 1-1, Section 1, Introduction, 2nd Paragraph, Last Sentence**

   This sentence references Environmental Restoration Program (ERP) site number OT-38. Table A of the Permit (List of SWMUs Requiring Corrective Action) shows the ERP number for this site as SS-38 (SWMU 137). The Permittee must clarify this discrepancy.

2. **Page 3-2, Section 3.1.1, OT-20 Sewage Lagoon Disposal Trenches**

This section states that additional characterization activities at ERP site number OT-20 (SWMU 113A) would include trenching activities, the installation of up to nine soil borings, and the installation of three monitoring wells as shown on Figure 3-1. During NMED's March 8, 2007 site inspection it was agreed that the proposed trenching was not required. Rather, a minimum of three additional exploratory soil borings would be advanced to more accurately define the eastern boundary of the source areas prior to excavation. Soils shall be analyzed as proposed. The installation of the three monitoring wells and ground water sampling and analysis is also required as proposed.

The Permittee is therefore required to submit an amendment to the work plan for this site that shows the anticipated boundary of the source areas and the locations and proposed depths of the new borings.

3. **Page 3-6, Section 3.1.4.1, OT-45 DPT Soil Borings**

This section states that additional characterization activities at ERP site number OT-45 (AOC-O) would include the installation of up to fifteen soil borings as shown on Figure 3-4. During NMED's March 8, 2007 site inspection it was agreed that the number of borings could be reduced to nine borings in the locations that were identified during the inspection. Soils and the ground water sampling and analysis is also required as proposed.

The Permittee is therefore required to submit an amendment to the work plan for this site that shows the anticipated boundary of the source area and the locations and proposed depths of the new borings.

4. **Page 3-6, Section 3.1.5.1, SS-12 DPT Soil Borings**

This section states that additional characterization activities at ERP site number SS-12 (AOC-K) would include the installation of up to fifteen soil borings as shown on Figure 3-5. During NMED's March 8, 2007 site inspection it was agreed that the proposed number of borings could be reduced to allow for boring spacing of 25 to 30 feet along the west/east trending storm sewer commencing in an easterly direction from boring BH-12-06A. The most easterly boring should be moved to the east approximately 25 feet from its proposed location. The north/south trending borings along the JP-4 pipeline are acceptable as proposed. Soils and ground water sampling and analysis is required as proposed.

The Permittee is therefore required to submit an amendment to the work plan for this site that shows the anticipated boundary of the source area and the locations and proposed depths of the new borings.

5. **Page 3-8, Section 3.1.7, RW-42 Radioactive Waste Burial Site**

This section states that additional characterization activities at ERP site number RW-42 (SWMU 111) would include the installation of four borings and three monitoring wells as shown on Figure 3-6. In addition to this characterization activity, the Permittee is required to conduct a surface radiological survey prior to commencing site activities, and to include these results and the results of any historical radiological surveys conducted at the site in the final report.

6. **Page 3-9, Section 3.1.8, OT-37 Early Missile Testing Site**

This section proposes various soil and ground water characterization activities at four locations within ERP site number OT-37 (AOC-L). In addition to the proposed characterization activities, the Permittee is required to collect a surface sample of the tar-like substance that coats the surface in the vicinity of the inclined test track and analyze this sample for total polychlorinated biphenyls (PCBs).

7. **Page 5-2, Section 5.1.3, Excavation Confirmation Sampling**

This section proposes that confirmatory samples will only be collected from excavation sidewalls, and not the bottom of the excavations, because the excavations will be terminated below the water table. At sites where this is not the case, samples must be collected from the bottoms of the excavations using the same dimensional and analytical requirements of the sidewalls.

The Permittee must respond to this Notice of Deficiency within thirty (30) calendar days of receipt of this letter. 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
D. Tellez, EPA, Region 6 (6PD-F)
File: HAFB 2007 and Reading
HAFB-07-001

RESPONSE TO COMMENTS Accelerated Corrective Measures Work Plan Multiple Sites Holloman AFB, New Mexico				
COMMENT NO.	SECTION	PAGE	COMMENT	RESPONSE
AUTHOR:	Mr. David Strasser (USACE Omaha)		Date of Comments: March 30, 2007.	Date of Response: April 3, 2007
DOCUMENT:	ACM Work Plan Multiple Sites			
1	1.0, Introduction, 2nd Paragraph, Last Sentence	1-1	This sentence references Environmental Restoration Program (ERP) site number OT-38. Table A of the Permit (List of SWMUs Requiring Corrective Action) shows the ERP number for this site as SS-38 (SWMU 137). The Permittee must clarify this discrepancy.	Although Table A of the Holloman AFB RCRA Permit (NM6572124422) lists SWMU 137 as ERP Site "SS-38", the *Holloman Air Force Base Environmental Restoration Program, Management Action Plan, December 2004* lists SWMU 137 (Sled Test Maintenance Area) as "OT-38". In addition, this site consists of an abandoned cesspool behind the building and is not considered a historical spill site (SS). Therefore, the ERP Site ID will be changed to "OT-38" during the next modification of the HAFB RCRA Permit.
2	3.1.1 OT-20 Sewage Lagoon Disposal Trenches	3-2	This section states that additional characterization activities at ERP site number OT-20 (SWMU 113A) would include trenching activities, the installation of up to nine soil borings, and the installation of three monitoring wells as shown on Figure 3-1. During NMED's March 8, 2007 site inspection it was agreed that the proposed trenching was not required. Rather, a minimum of three additional exploratory soil borings would be advanced to more accurately define the eastern boundary of the source areas prior to excavation. Soils shall be analyzed as proposed. The installation of the three monitoring wells and ground water sampling and analysis is also required as proposed. The Permittee is therefore required to submit an amendment to the work plan for this site that shows the anticipated boundary of the source area and the locations and proposed depths fo the new borings.	Concur. The scope of work presented in Section 3.1.1 has been revised. The additional trenching has been deleted and the installation of nine soil borings has been reduced to three soil borings. The purpose of the three soil borings (advanced 7 to 10 ft below ground surface) is to confirm the locations of the three sewage grit disposal pits and to assist in defining the eastern boundary of the disposal pits prior to excavation. The soil will be analyzed as proposed and the installation of three monitoring wells and ground water sampling will also be completed as proposed. Figure 3-1 has been revised to show the locations of the three boreholes and Figure 4-1 shows the anticipated boundary of the source area(s) excavation.

RESPONSE TO COMMENTS Accelerated Corrective Measures Work Plan Multiple Sites Holloman AFB, New Mexico				
COMMENT NO.	**SECTION**	**PAGE**	**COMMENT**	**RESPONSE**
3	3.1.4.1 OT-45 DPT Soil Borings	3-6	This section states that additional characterization activities at ERP site number OT-45 (AOC-O) would include the installation of up to fifteen soil borings as shown on Figure 3-4. During NMED's March 8, 2007 site inspection it was agreed that the number of borings could be reduced to nine borings in the locations that were identified during the inspection. Soils and the ground water sampling and analysis is also required as proposed. The Permittee is therefore required to submit an amendment to the work plan for this site that shows the anticipated boundary of the source area and the locations and proposed depths of the new borings.	Concur. The scope of work presented in Section 3.1.4.1 (OT-45 DPT Soil Borings) has been revised. The installation of fifteen soil borings has been reduced to the nine locations that were identified during the site inspection (March 8, 2007). Figure 3-4 has been revised to show the locations of the nine OT-45 soil borings. It is anticipated that the nine soil boring will be advanced to a depth of approximately 5 feet below ground surface (anticipated depth to ground water). In addition, the OT-45 source area boundary has been extended around the locations of the three former underground storage tanks, the former pump island and former fuel station (Figure 3-4). The soil and ground water analysis will be analyzed as proposed.
4	3.1.5.1 SS-12 DPT Soil Borings	3-6	This section states that additional characterization activities at ERP site number SS-12 (AOC-K) would include the installation of up to fifteen soil borings as shown on Figure 3-5. During NMED's March 8, 2007 site inspection it was agreed that the number of borings could be reduced to allow for boring spacing of 25 to 30 feet along the west/east trending storm sewer commencing in an easterly direction from boring BH-12-06A. The most easterly boring should be moved to the east approximately 25 feet from its proposed location. The north/south trending borings along the JP-4 pipeline are acceptable as proposed. Soils and the ground water sampling and analysis is also required as proposed. The Permittee is therefore required to submit an amendent to the work plan for this site that shows the anticipated boundary of the source area and the locations and proposed depths of the new borings.	Concur. The scope of work presented in Section 3.1.4.1 (SS-12 DPT Soil Borings) has been revised. The installation of up to fifteen soil borings has been reduced to twelve locations. It was agreed during NMED's March 8, 2007 site inspection that the proposed number of borings could be reduced to allow for a boring spacing of 25 to 30 feet along the east/west trending storm sewer commencing in an easterly direction from BH-12-06A. It is anticipated that the twelve soil borings will be advanced to a depth of approximately 5 to 7 feet below ground surface (anticipated depth to ground water). Figure 3-5 has been revised to show the locations of the twelve SS-12 DPT soil boring locations and the approximate source area/site boundary.
5	3.1.7 RW-42 Radioactive Waste Burial Site	3-8	This section states that additional characterization activities at ERP site number RW-42 (SWMU 111) would include the installation of four soil borings and three monitoring wells as shown on Figure 3-6. In addition to this characterization activity, the Permittee is required to conduct a surface radiological survey prior to commencing site activities, and to include these results and the results of any historical radiological surveys conducted at the site in the final report.	Concur. A surficial radiological survey will be conducted prior to initiating field activities at Site RW-42. The results of this and historical radiological surveys will be included in the final report for the site.
6	3.1.8 OT-37 Early Missile Testing Site	3-9	This section proposes various soil and groundwater characterization activities at four locations within ERP site OT-37 (AOC-L). In addition to the proposed characterization activities, the Permittee is required to collect a surface sample of the tarlike substance that coats the surface in the vicinity of the inclined test track and analyze the sample for total polychlorinated biphenyls (PCBs).	Concur. A single sample of the tarlike substance that coats the surface in the vicinity of the inclined test track will be collected and analyzed for total polychlorinated biphenyls.

RESPONSE TO COMMENTS Accelerated Corrective Measures Work Plan Multiple Sites Holloman AFB, New Mexico				
COMMENT NO.	**SECTION**	**PAGE**	**COMMENT**	**RESPONSE**
7	5.1.3 Excavation Confirmation Sampling	5-2	This section proposes that confirmation samples will only be collected from excavation sidewalls, and not the bottom of the excavations, because the excavations will be terminated below the water table. At sites where this is not the case, samples must be collected from the bottoms of the excavations using the same dimensional and analytical requirements of the sidewalls.	Concur. For sites (e.g., OT-03) where the excavation of contaminated soil is most likely to be terminated above the water table, confirmation soil samples will also be collected from the bottom of the excavation using the same dimensional and analytical requirements as the sidewall confirmation sampling. This change has been added to Section 5.1.3 (Excavation Confirmation Sampling).
END OF COMMENTS				

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 476-6000
Fax (505) 476-6030
www.nmenv.state.nm.us

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

CINDY PADILLA
SECRETARY

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

April 24, 2007

Debbie Hartell, Chief
Environmental Flight
49th CES/CEV
550 Tabosa Avenue
Holloman AFB, NM 88330-8458

RE: NOTICE OF APPROVAL
ACCELERATED CORRECTIVE MEASURES WORK PLAN, MULTIPLE SITES, NOVEMBER 2006
HOLLOMAN AIR FORCE BASE, EPA ID# NM6572124422
HWB-HAFB-07-001

Dear Ms. Hartell:

The New Mexico Environment Department (NMED) has reviewed Holloman Air Force Base's (The Permittee) April 3, 2007 response to NMED's March 30, 2007 Notice of Deficiency (NOD) for the Accelerated Corrective Measures Work Plan for Multiple Sites, dated November 2006.

The NMED hereby concurs with the responses and approves the Work Plan for implementation. The Permittee is now required to submit the changed pages and figures, as indicated in the responses, for incorporation into the Work Plan. In addition, the Permittee is advised that, for future responses to NODs, all revised text and figures must be submitted with the response table.

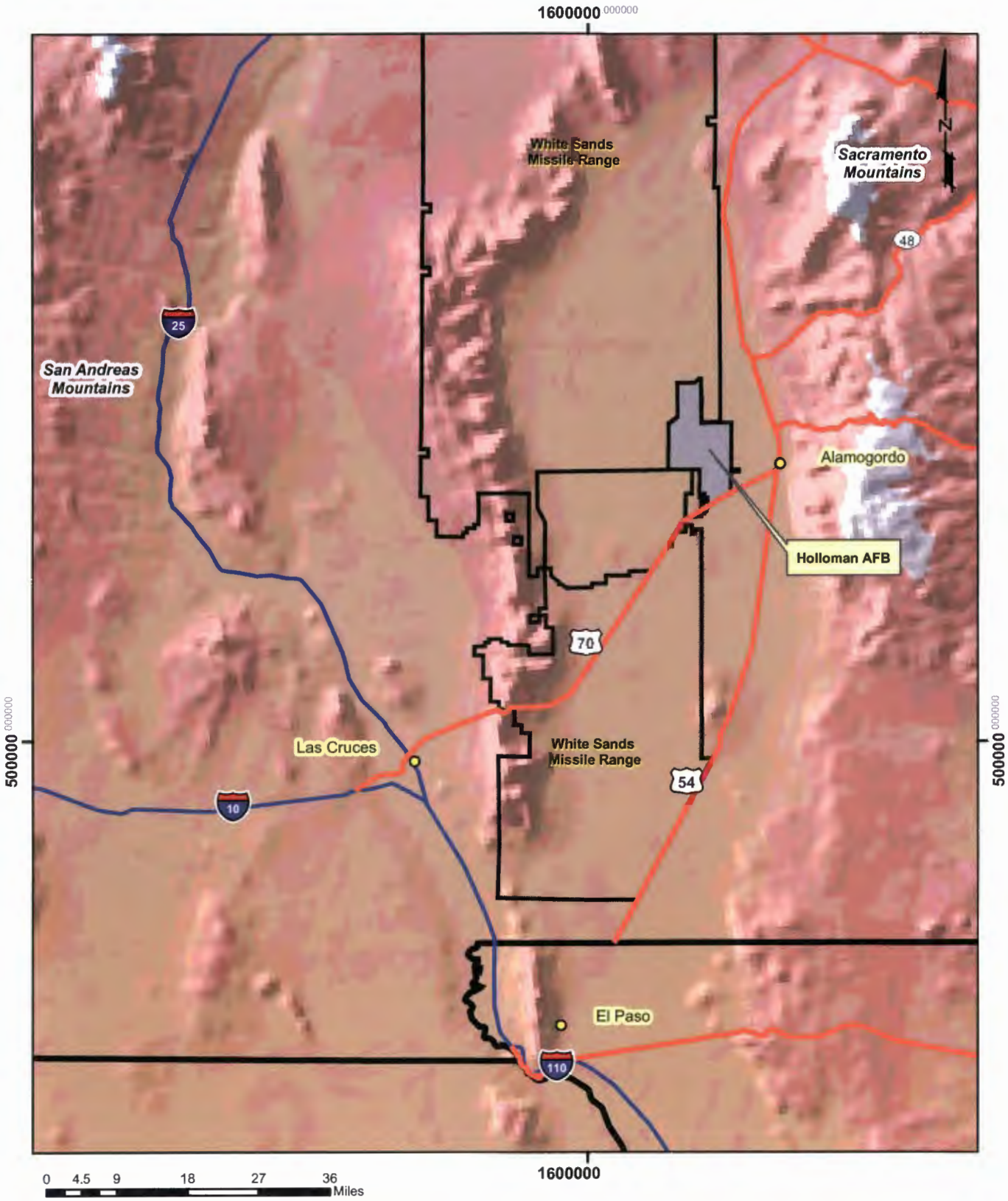
If you have any questions regarding this letter, please contact Mr. David Strasser at (505) 222-9526.

Sincerely,

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

cc: J. Bearzi, NMED HWB
W. Moats, NMED HWB
C. Amindyas, NMED HWB
D. Strasser, NMED HWB
D. Tellez, EPA Region 6 (6PD-F)
File: HAFB 2007 and Reading
HWB-HAFB-07-001

FIGURES



Projection: New Mexico State Plane Central, North American Datum 1983 (feet)

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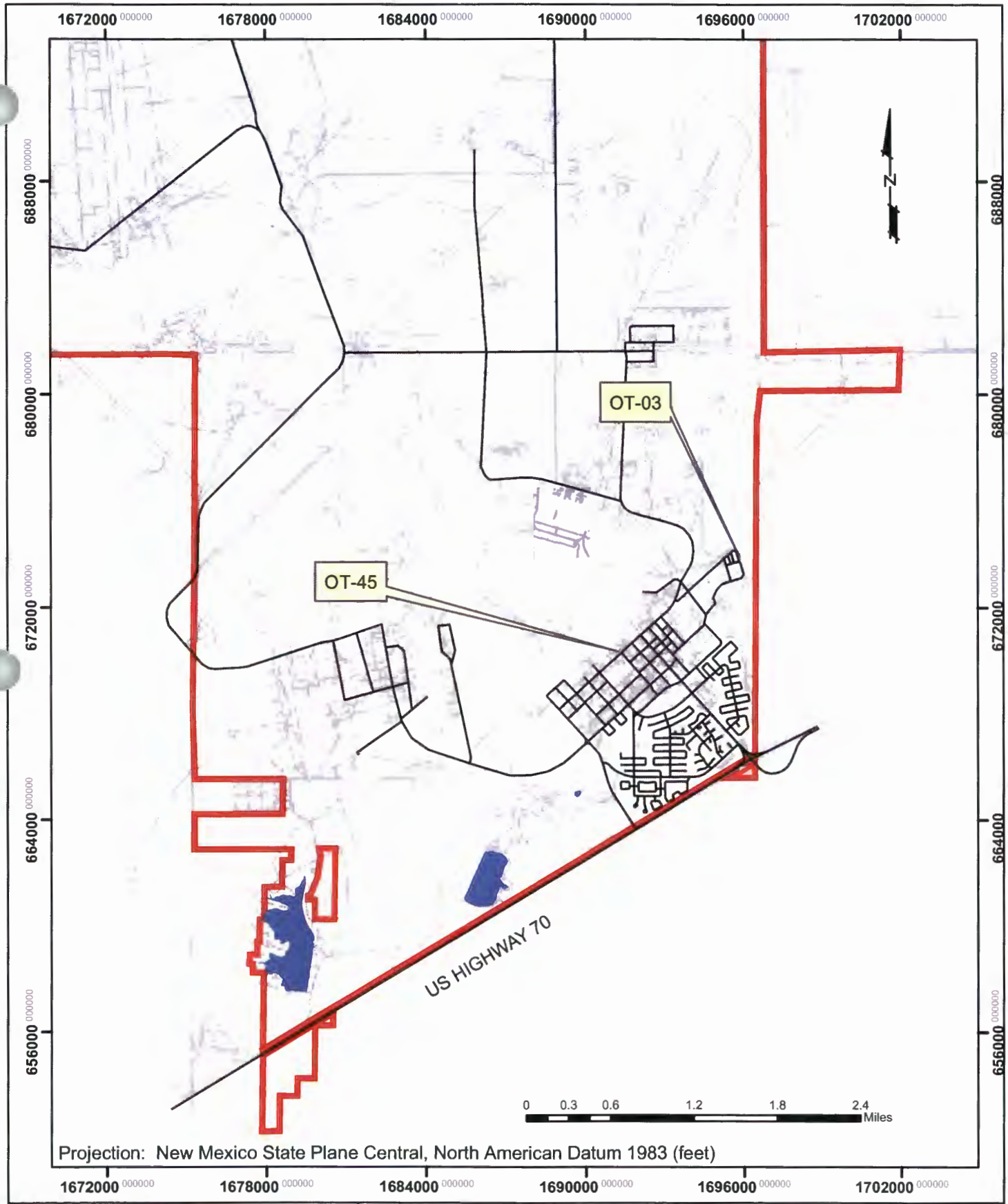
Holloman AFB, New Mexico Location Map			
PROJECT NO.	SCALE	DATE	DRAWN BY: cm
9050361	1"=18 Miles	7/24/08	DRAWING NO: Figure 2-1

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 2-1



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Site Location Map

PROJECT NO.	SCALE	DATE	DRAWN BY:
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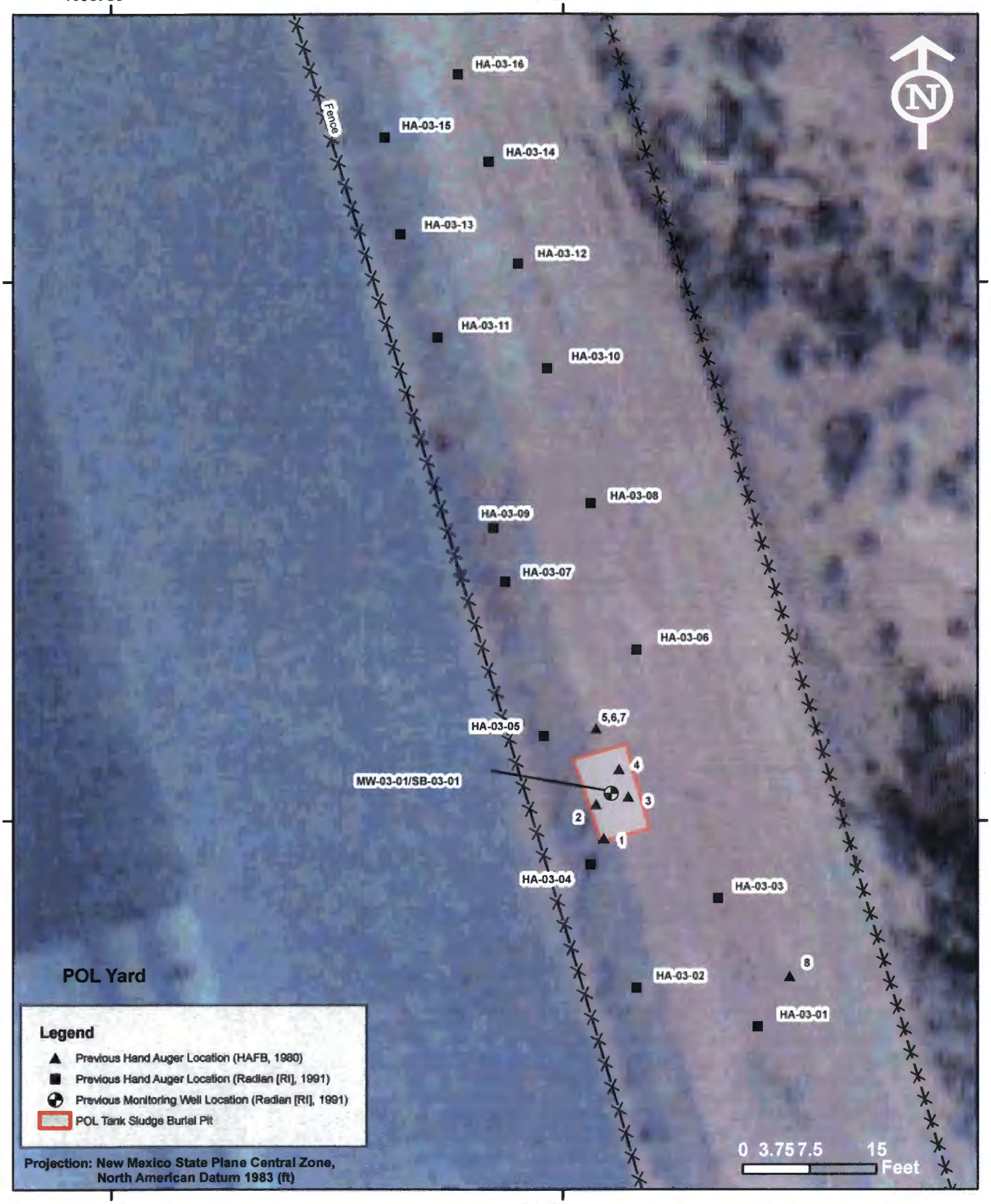
			DRAWING NO. Figure 2-2

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 2-2



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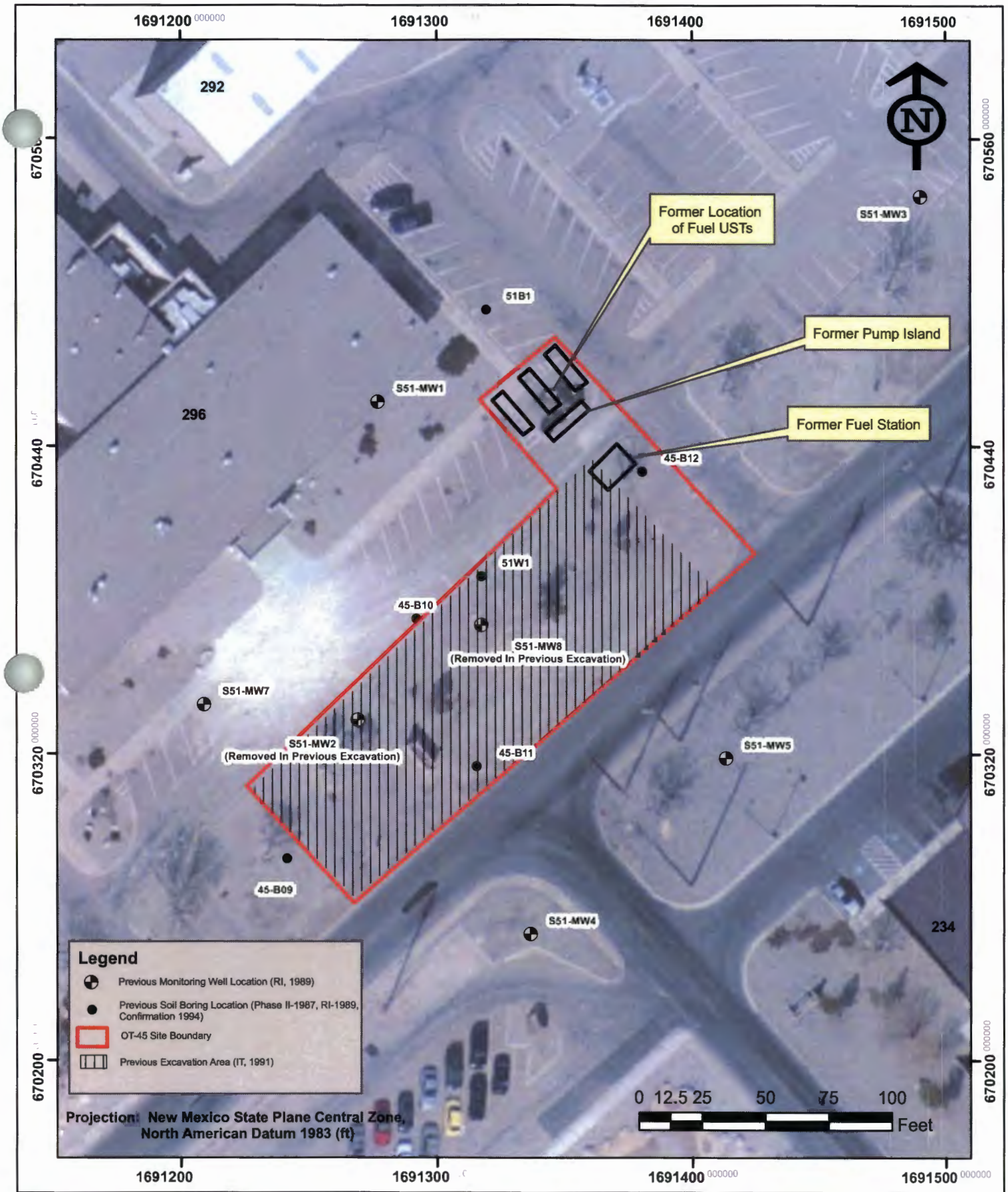
Site OT-03
Previous Sampling Locations

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
9050361	1"=15'	8/7/08	DRAWING NO: fig2-3

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holoman AFB, New Mexico

Figure 2-3



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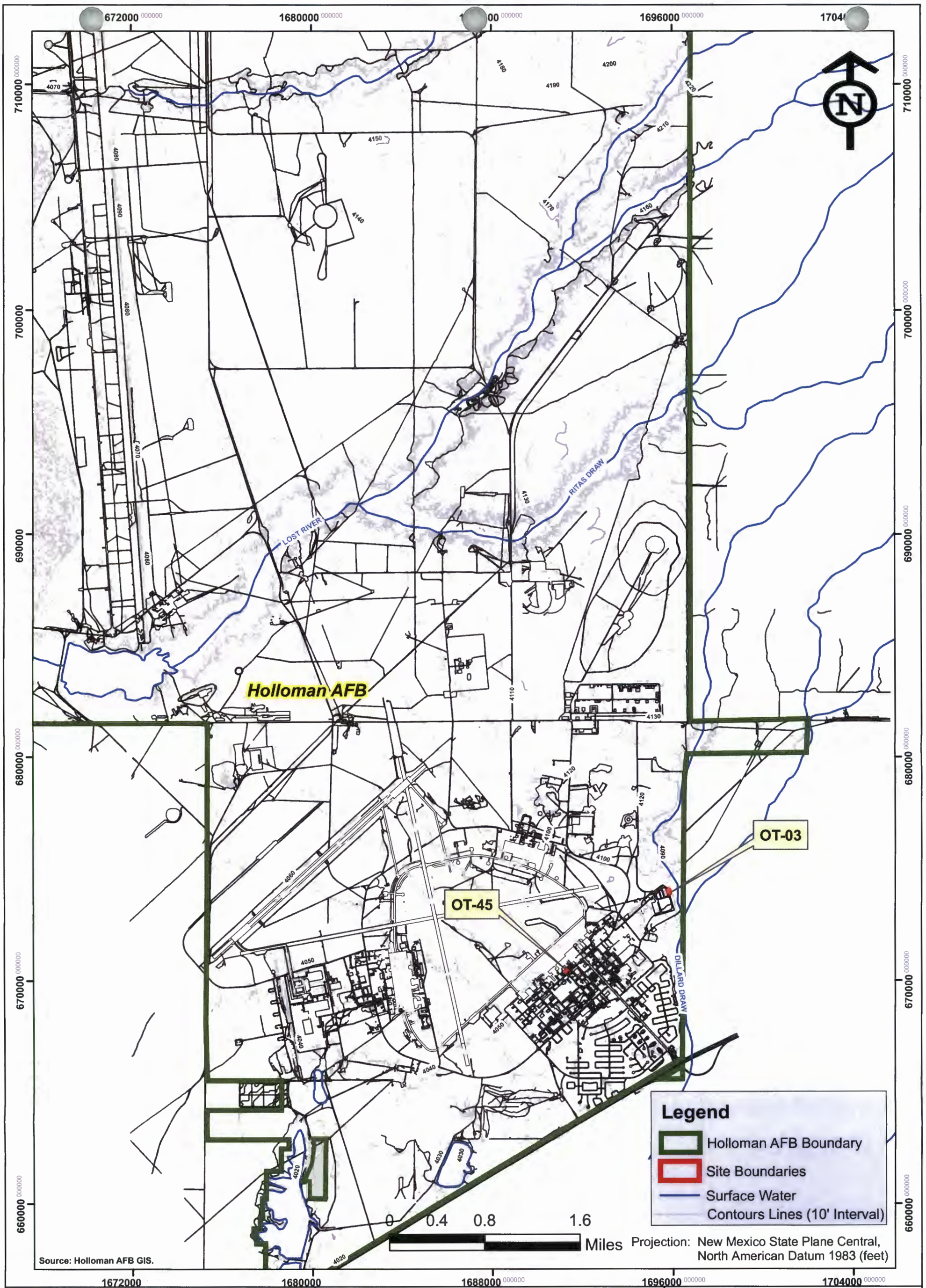
OT-45
Previous Sampling Locations and Excavation Area

			cm
9050361	1"=50'	8/7/08	fig2-4

Sites OT-03 and OT-45
Accelerated Correction Measures
Completion Report
Holloman AFB New Mexico

Figure 2-4



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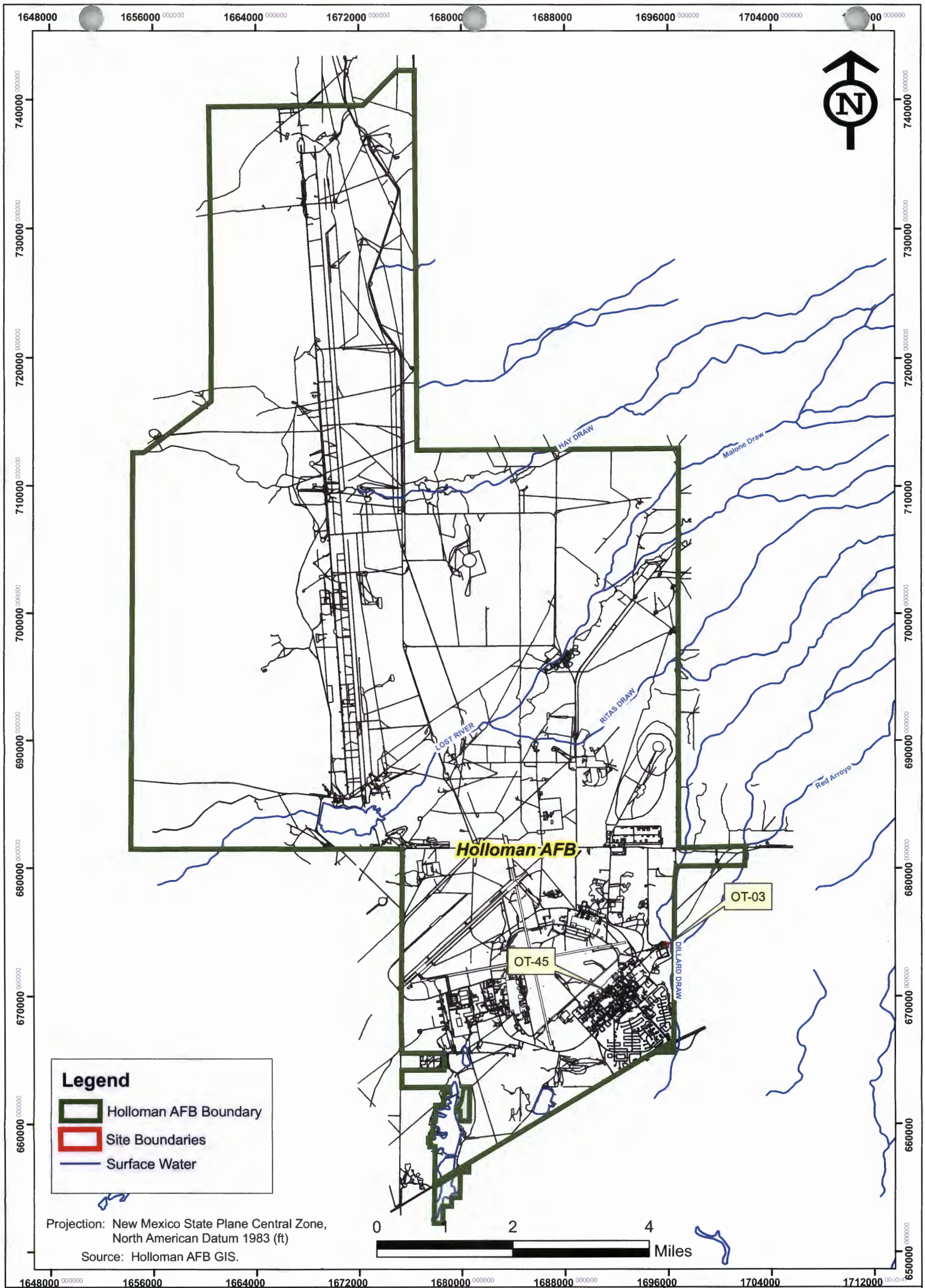
Topographic Map
Holloman AFB, New Mexico

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
9050361	1"=4000'	8/7/08	DRAWING NO: Topo_3-1

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 3-1



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Surface Drainages Holloman AFB, New Mexico

PROJECT NO.	SCALE	DATE	DRAWN BY:
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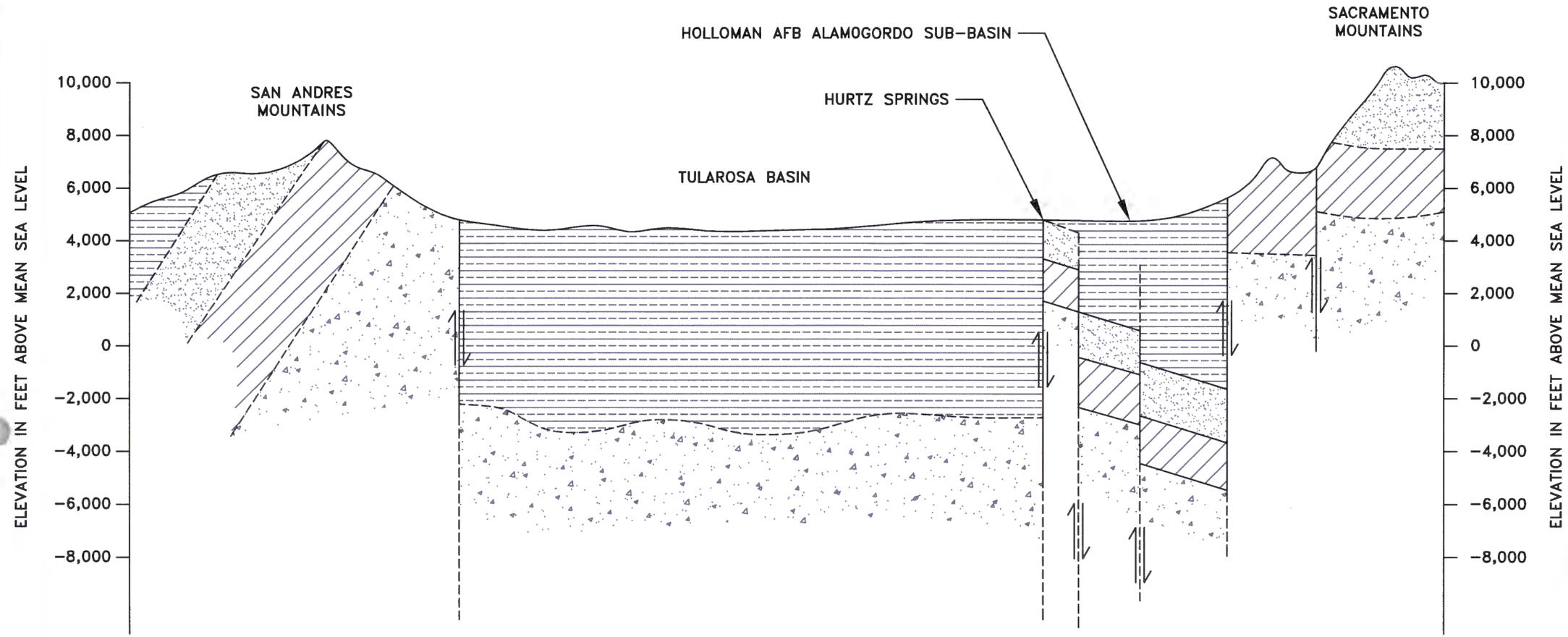
			DRAWING NO: drainage_3-2

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion 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

0 5 10
SCALE IN MILES:

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.

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 3-3

GENERALIZED GEOLOGIC CROSS SECTION OF THE TULAROSA BASIN

PROJECT NO.	SCALE	DATE	DRAWN BY:	DRAWING NO:
9050361	SHOWN	5/05/08	MRM	Figure 3-3

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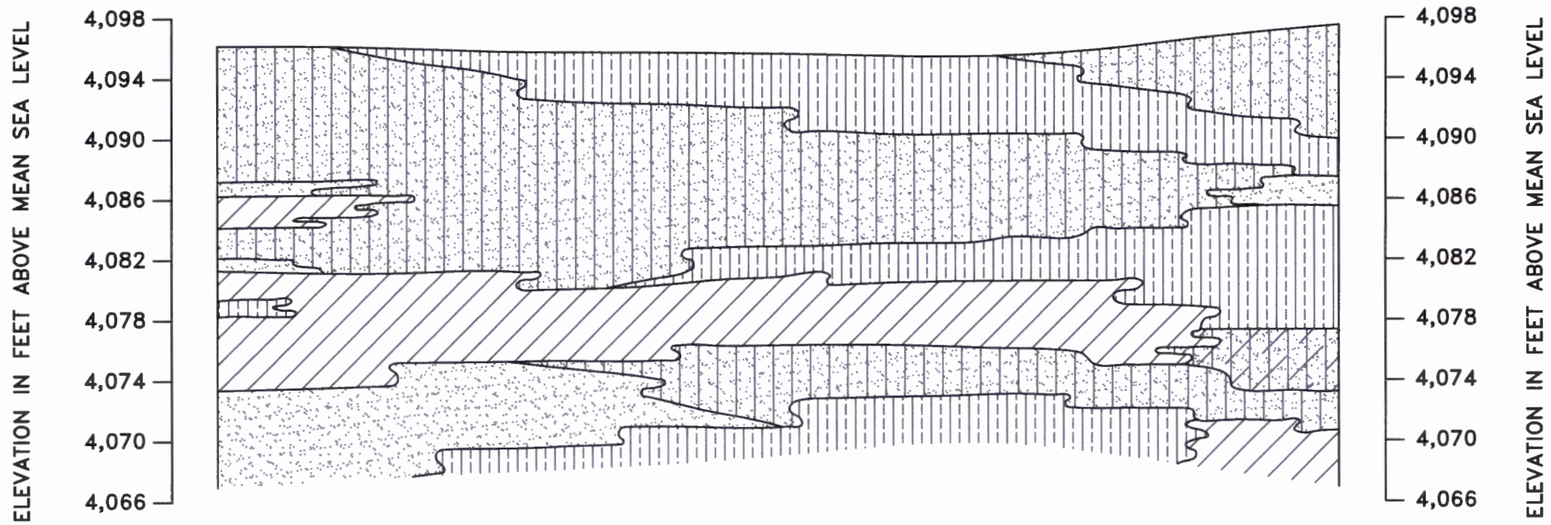

LEGEND:

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

0' 100' 200'

SCALE IN FEET:

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.

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion 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:
9050361	SHOWN	5/05/08	MRM	Figure 3-4

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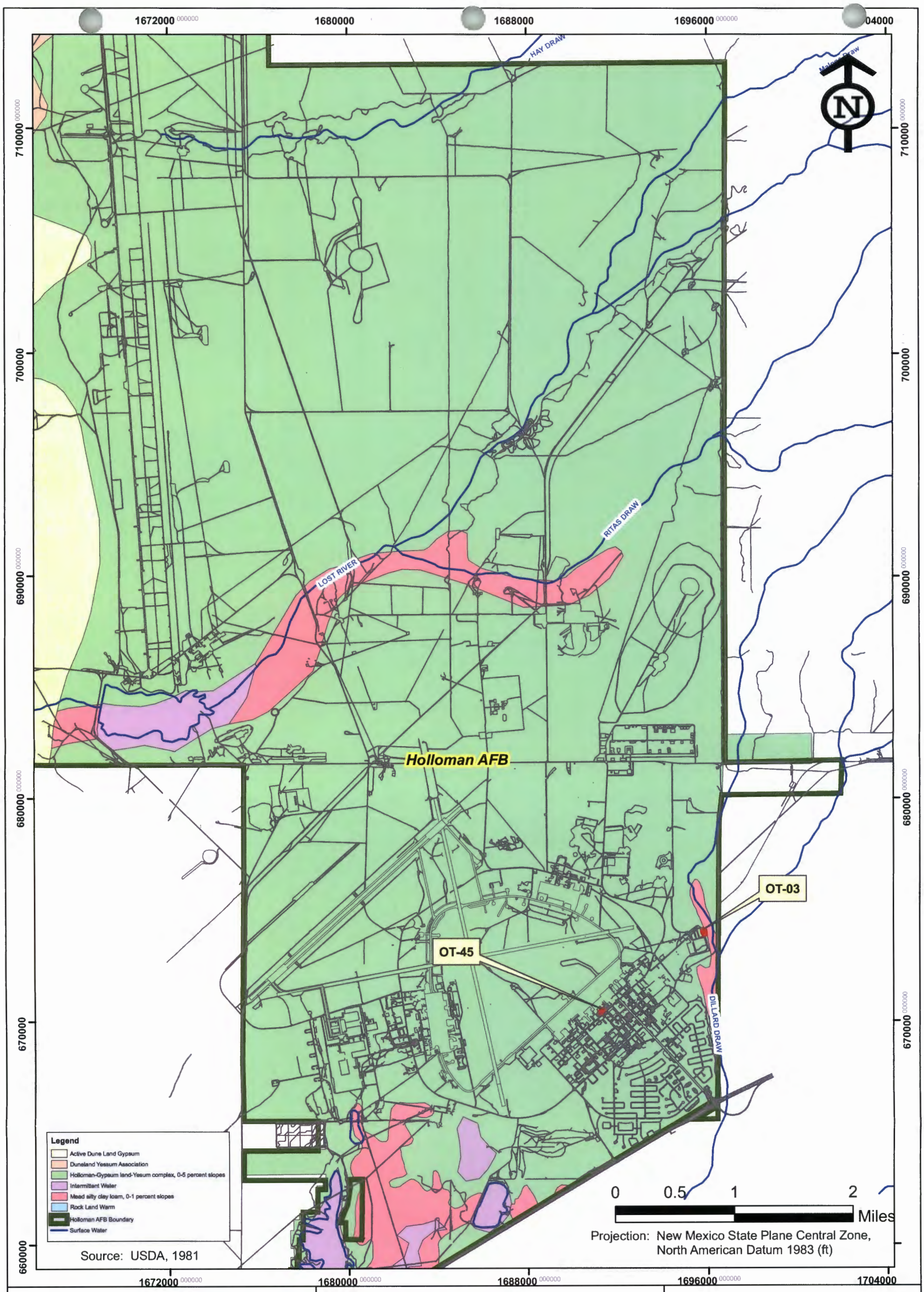

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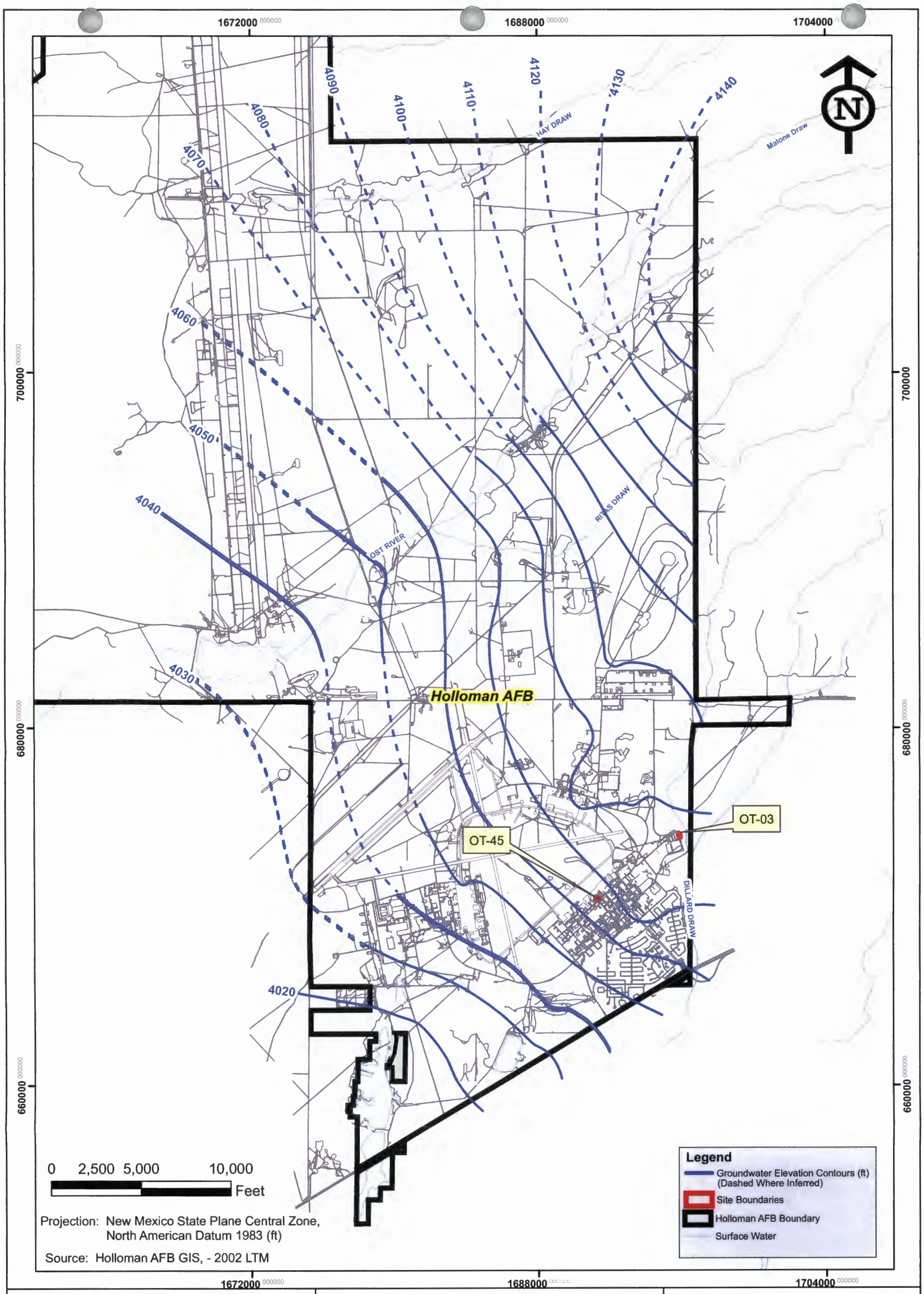
Soil Map
Holloman AFB, New Mexico

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
9050361	1"=4000'	5/1/08	DRAWING NO: soils_3-5

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 3-5



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Groundwater Contour Map
Holloman AFB, New Mexico

PROJECT NO.	SCALE	DATE	DRAWN BY:
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			DRAWING NO: gwcontour_3-6

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 3-6

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OT-45 Potentiometric Surface Map
June 2007

9050361	1"=50'	7/24/08	cm fig3-7

Sites OT-03 and OT-45
Accelerated Correction Measures
Completion Report
Holloman AFB New Mexico

Figure 3-7

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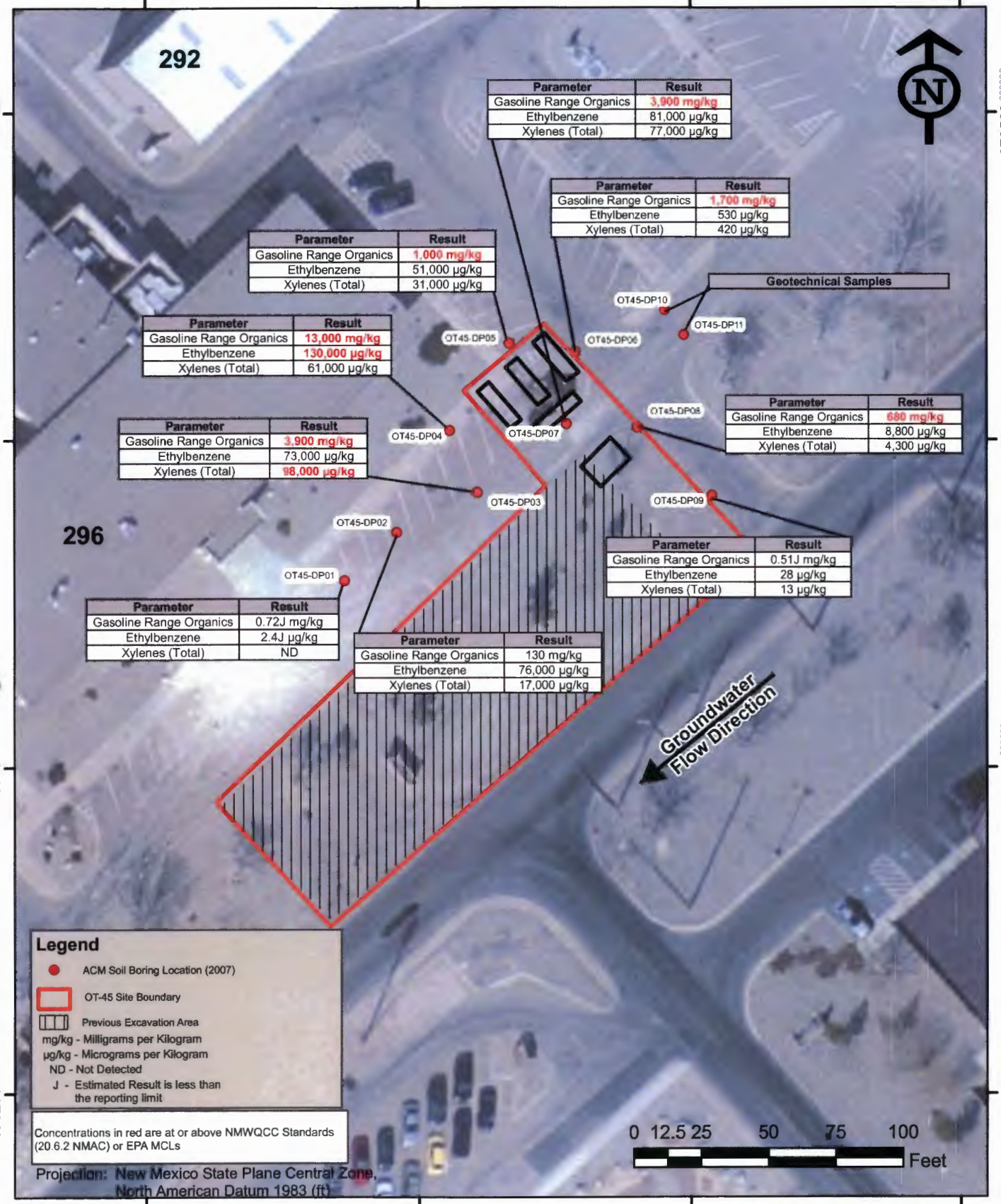
OT-45
Additional Investigations

9050361	1"=50'	8/7/08	cm fig5-1

Sites OT-03 and OT-45
Accelerated Correction Measures
Completion Report
Holloman AFB New Mexico

Figure 5-1



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OT-45
Soil Analytical Results

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
9050361	1"=50'	8/8/08	DRAWING NO: fig7-1

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 7-1

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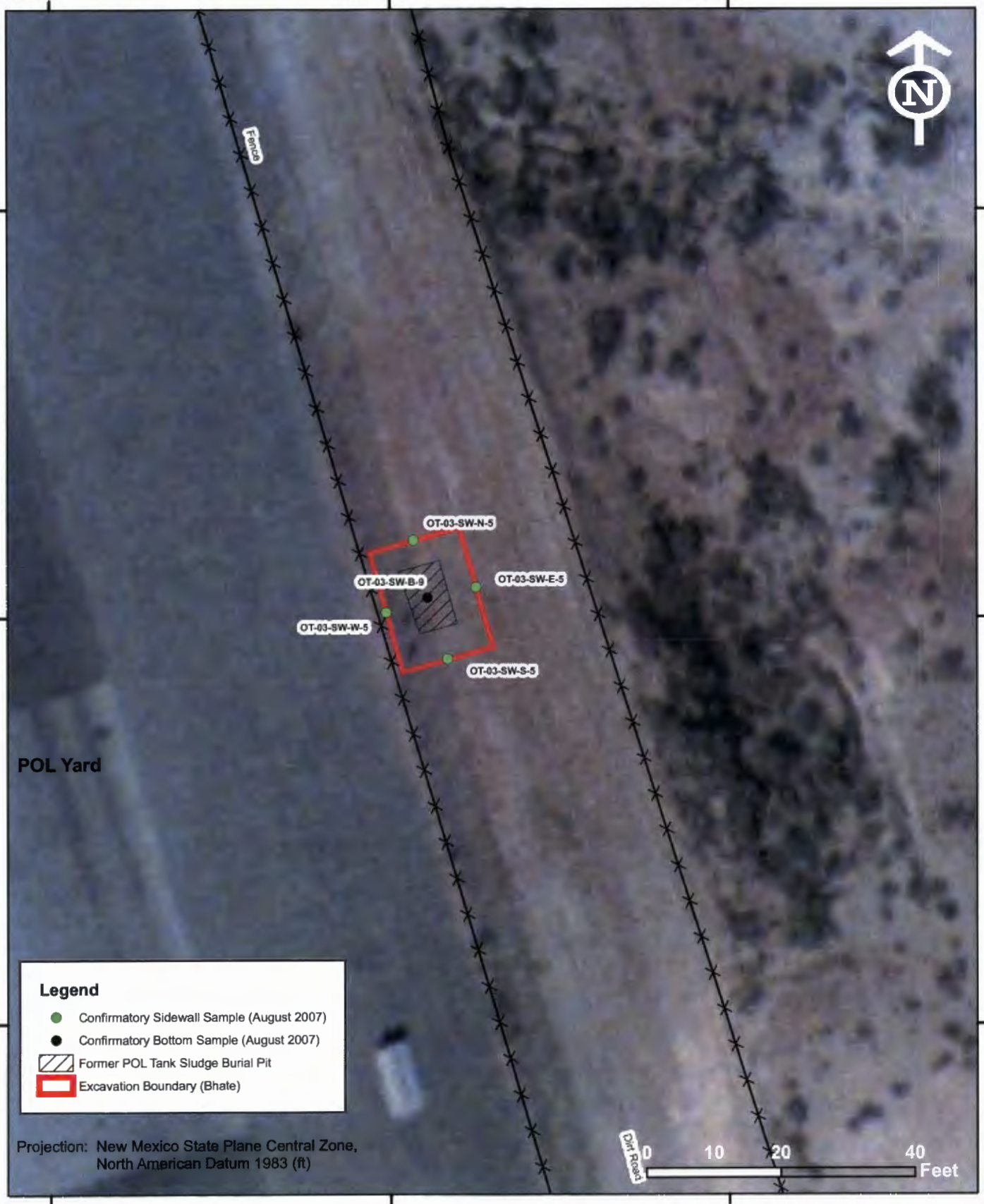
OT-45
Groundwater Analytical Results

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
9050361	1"=50'	8/8/08	DRAWING NO: fig7-2

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 7-2



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OT-03 Excavation Area

PROJECT NO.	SCALE	DATE	DRAWN BY: cm
9050361	1"=20'	8/7/08	DRAWING NO: fig8-1

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holoman AFB, New Mexico

Figure 8-1

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Site OT-45 Excavation Areas (October 1991 and February 2008)

PROJECT NO.	SCALE	DATE	DRAWN BY:	cm
9050361	1"=20'	8/8/08	DRAWING NO:	fig8-2

Sites OT-03 and OT-45
Accelerated Corrective Measures
Completion Report
Holloman AFB, New Mexico

Figure 8-2

TABLES

Table 3-1
OT-45 Groundwater Elevations (June 2007)
Old AGE Refueling Station, Site OT-45
Holloman Air Force Base, New Mexico

Well	Northing	Easting	Elevation TOC (ft above msl)	DTW from TOC (ft below TOC)	Groundwater Elevation June 9, 2007 (ft above msl)
S51-MW1	670457.3	1691277.0	4,071.54	6.42	4,065.12
S51-MW3	670537.3	1691490.0	4,071.03	5.16	4,065.87
S51-MW4	670249.3	1691336.0	4,070.83	6.52	4,064.31
S51-MW5	670318.3	1691413.0	4,070.19	4.56	4,065.63
S51-MW7	670339.3	1691209.0	4,069.87	5.65	4,064.22

Notes:
TOC = Top of Casing
DTW = Depth to Water
ft = feet
msl = mean sea level

Table 3-2
OT-45 Monitoring Well Construction Details
Old AGE Refueling Station, Site OT-45
Holloman Air Force Base, New Mexico

Well ID	Installation Date	Sampled 2007	Diameter (inches)	Screen Interval (ft bgs)	Depth to Water (ft below TOC)	Total depth (feet)	Status
S51-MW1	3/27/1988	1	2	2.0 - 17.0	6.42	18.0	Active
S51-MW3	3/24/1988	1	2	2.0 - 17.0	5.16	18.0	Active
S51-MW4	3/22/1988	1	2	2.0 - 17.0	6.52	18.0	Active
S51-MW5	3/22/1988	1	2	2.0 - 17.0	4.56	18.0	Active
S51-MW7	1/22/1989	1	2	3.0 - 18.0	5.65	18.0	Active

Notes:
ft bgs - Feet below ground surface
ft below TOC - Feet below Top of Casing (based on June 9, 2007 groundwater elevation)

Table 7-1
OT-45 Soil Analytical Results (June 2007)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	Soil Screening Levels	OT45-DP01-6	OT45-DP02-5	OT45-DP02-5A	OT45-DP03-5	OT45-DP04-4	OT45-DP05-4	OT45-DP06-4	OT45-DP07-4	OT45-DP08-4	OT45-DP09-5
Lab Sample ID:	NMED Residential[1]	D7F050154-007	D7F050154-008	D7F050154-009	D7F050154-010	D7F050154-011	D7F050154-012	D7F050154-014	D7F050154-015	D7F050154-016	D7F050154-017
Date Sampled:		6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007
				Duplicate							
Analyte		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
General Chemistry		%	%	%	%	%	%	%	%	%	%
Percent Moisture	NV	23	27	25	25	24	26	19	29	27	27
Total Petroleum Hydrocarbons	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Diesel Range Organics (C10-C22)	800 [2]	2.4 J	26 J	2.4 J	130 J	1,400 J	370 J	1,100 J	810 J	160 J	2.3 J
Gasoline Range Organics (C6 -C10)	800 [2]	0.72 J	130 J	92	**3,900**	**13,000**	**1,000**	**1,700**	**3,900**	**680**	0.51 J
Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Acetone	28,100	14 J	ND	ND	ND	ND	ND	ND	ND	ND	23 J
Benzene	10.3	2.5 J	560	2,100 J	9,500	8,400	ND	ND	6,300	680	1.4 J
2-Butanone (MEK)	31,800	3.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	128	2.4 J	8,500	76,000	73,000	**130,000**	51,000	530	81,000	8,800	28
Tetrachloroethene	12.5	ND	730	530 J	ND	2,300 J	ND	320	ND	330 J	ND
Toluene	252	ND	ND	ND	12,000	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	69.3	ND	82 J	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	82	ND	2,800	17,000	**98,000**	61,000	31,000	420	77,000	4,300	13
n-Butylbenzene	62.1	ND	470	4,400	5,400	7,600 J	3,500	ND	ND	ND	5.0 J
sec-Butylbenzene	60.6	2.0 J	ND	ND	ND	ND	ND	1500 J	ND	ND	5.7 J
Isopropylbenzene	271	2.7 J	2,000	16,000	13,000	23,000	9,700	510	17,000	1,900	5.6 J
1,2,4-Trimethylbenzene	58	ND	ND	ND	ND	ND	ND	ND	ND	ND	20
1,3,5-Trimethylbenzene	24.8	ND	1,400	12,000	15,000	19,000	10,000	ND	19,000	1500	ND
n-Propylbenzene	62.1	ND	3,100	29,000	21,000	38,000	15,000	430	29,000	3,000	23
tert-Butylbenzene	106	0.68 J	590	4,600	3,800	6,000 J	2,400 J	ND	5,600	540	ND
4-Isopropyltoluene	NV	ND	ND	ND	ND	ND	ND	110 J	ND	ND	4.0 J
1,2,3-Trichlorobenzene	NV	ND	120 J	500 J	ND	ND	ND	ND	ND	ND	ND
m-Xylene & p-Xylene	82	ND	2,800	17,000	77,000	61,000	31,000	420	77,000	4300	13
o-Xylene	99.5	ND	ND	ND	20,000	ND	ND	ND	ND	ND	ND
Naphthalene	79.5	0.98 J	770	7,000	5,200	13,000	3,300 J	1,700	8,700	880	45 J
Semi-Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
bis(2-Ethylhexyl)phthalate	347	ND	110 J	ND	ND	440 J	130 J	430 J	160 J	130 J	120 J
Dibenzofuran	142	ND	ND	ND	62 J	ND	66 J	220 J	140 J	ND	ND
Fluorene	2,660	ND	ND	ND	ND	ND	ND	ND	77 J	ND	ND
2-Methylnaphthalene	NV	ND	460 J	ND	1,900	3,200 J	1,500	3,000 J	4,000	520 J	ND
Naphthalene	79.5	ND	210 J	ND	990	1,700 J	770 J	1,500 J	1,800	300 J	ND

Notes:

NMED = New Mexico Environment Department
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Estimated result. Result is between the Method Detection Limit (MDL) and the Reporting Limit (RL), and/or qualified by the validating chemist (see Appendix E of the report).
ND = Not Detected
NV = No Value
[1] NMED, June 2006. Technical Background Document for Development of Soil Screening Levels (SSLs), Revision 4.0
[2] NMED, October 2006. TPH Screening Guidelines (Unknown oil, Residential Direct Exposure, Table 2b.)
Bold value indicate analytes above NMED SSLs (Rev 4.0, Jun 2006) or combined TPH results above NMED TPH Screening Guidelines for Unknown oil (Table 2b., Oct 2006)

Table 7-2
OT-45 Soil Geotechnical Results (June 2007)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	**Method**	**Unit**	**OT45-DP10-5**	**OT45-DP11-5**	**Average**
Depth (ft bgs)			**5-6**	**5-6**	
Date sampled			**6/4/2007**	**6/4/2007**	
Parameter					
Bulk Density (Dry Basis)	ASTM D2937-94 M	g/mL	1.4	1.7	1.550
Fractional Organic Carbon	ASTM D2974-87	%	5.5	2.4	3.950
Moisture Content (Solids, Percent)	EPA 160.3	%	14.1	10.2	12.150
Specific Gravity	ASTM 1429		1.8	2	1.900

Notes:
ASTM - American Society for Testing and Materials
EPA - Environmental Protection Agency
ft bgs - Feet below ground surface
g/mL - grams per milliliter
% - percent

Table 7-3
OT-45 Groundwater Analytical Results (June 2007)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	Groundwater Screening Levels		S51-MW1	S51-MW3	S51-MW4	S51-MW5	S51-MW7	S51-MW7-A
Lab Sample ID:	NMWQCC[1]	USEPA MCL	D7F050154-001	D7F050154-002	D7F050154-004	D7F050154-003	D7F060363-009	D7F060363-010
Date Sampled:			6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007
								Duplicate
Analyte			Result	Result	Result	Result	Result	Result
General Chemistry	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Dissolved Solids (TDS)	1,000	500[2]	**3,200**	**23,000 Q**	**4,900 Q**	**3,400**	**8,200 Q**	**7,600 Q**
Volatile Organic Compounds	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Carbon tetrachloride	10	5	ND	ND	ND	ND	2.3	3.3
Chlorobenzene	NV	100	0.77 J	ND	ND	ND	ND	ND
Chloroform	100	NV	ND	0.27 J	0.66 J	2.3	3.4	5.7
1,2-Dichlorobenzene	NV	600	0.21 J	ND	ND	ND	0.57 J	0.80 J
1,3-Dichlorobenzene	NV	NV	ND	ND	ND	ND	ND	0.27 J
1,4-Dichlorobenzene	NV	75	0.31 J	ND	ND	ND	ND	0.25 J
Dichlorodifluoromethane	NV	NV	ND	ND	ND	ND	0.45 J	0.71 J
1,1-Dichloroethane	25	NV	ND	2.5	0.20 J	ND	0.48 J	0.52 J
1,2-Dichloroethane	10	5	ND	ND	ND	ND	0.59 J	0.96 J
1,1-Dichloroethene	5	7	ND	2.8	ND	ND	ND	ND
1,2-Dichloroethene (total)	NV	NV	ND	0.18 J	ND	ND	0.44 J	0.48 J
cis-1,2-Dichloroethene	NV	70	ND	0.18 J	ND	ND	0.44 J	0.48 J
Methylene chloride	100	5	ND	0.35 J	0.39 J	0.49 J	ND	ND
Tetrachloroethene	20	5	ND	0.59 J	2	ND	ND	0.25 J
Trichloroethene	100	5	0.60 J	**6.5**	0.61 J	ND	2.9	4.7
2-Chlorotoluene	NV	NV	0.41 J	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
bis(2-Ethylhexyl)phthalate	NV	NV	3.0 J	2.6 J	ND	ND	3.1 J	ND

Notes:
NMWQCC = New Mexico Water Quality Control Commission
USEPA MCL = U.S. Environmental Protection Agency Maximum Contaminant Level
µg/L = micrograms per liter
mg/L = milligrams per liter
J = Estimated result. Result is between the Method Detection Limit (MDL) and the Reporting Limit (RL), and/or qualified by the validating chemist (see Appendix E of the report).
ND = Not Detected
NV = No Value
Q = Elevated reporting limit. The reporting limit is elevated due to high analyte levels.
[1]Standards for Groundwater, if 10,000 mg/L TDS Concentration or Less, New Mexico Administrative Code 20.6.2.3103
[2] USEPA Secondary Drinking Water Standard
Bold value indicate analytes above USEPA MCL and/or New Mexico Groundwater Quality Standard

Table 8-1
OT-03 Excavation Soil Confirmation Analytical Results (August 2007)
POL Tank Burial Site
Holloman Air Force Base, New Mexico

Client Sample ID:	**Soil Screening Levels**	**OT-03-SW-N-5**	**OT-03-SW-E-5**	**OT-03-SW-S-5**	**OT-03-SW-W-5**	**OT-03-SW-B-9**
Lab Sample ID:	**NMED**	**LR195631**	**LR195631**	**LR195631**	**LR195631**	**LR195631**
Date Sampled:	**Residential[1]**	**08/14/2007**	**08/14/2007**	**08/14/2007**	**08/14/2007**	**08/14/2007**
Analyte		**Result**	**Result**	**Result**	**Result**	**Result**
Total Petroleum Hydrocarbons	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Oil Range Organics (>C22-C36)	800 [2]	ND	ND	3.2 J	4.5 J	ND
Diesel Range Organics (C10-C22)	800 [2]	ND	1.2	ND	ND	ND
Volatile Organic Compounds (VOCs)	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
All VOCs	NV	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
Diethylphthalate	48,900	1,800	ND	ND	ND	1,670

Notes:

NMED = New Mexico Environment Department
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Estimated Result
ND = Not Detected
NV = No Value

[1]NMED, June 2006. Technical Background Document for Development of Soil Screening Levels, Revision 4.0

[2] NMED, October 2006. TPH Screening Guidelines (Unknown oil, Residential Direct Exposure, Table 2b.)

Bold value indicate analytes above NMED Soil Screening Levels (Revision 4.0, June 2006)

Table 8-2
OT-03 Stockpile Soil Analytical Results (August 2007)
POL Tank Burial Site
Holloman Air Force Base, New Mexico

Client Sample ID:	Soil Screening Levels	OT-03-SP-OB-1	OT-03-SP-PCS-1	OT-03-SP-OB-RS
Lab Sample ID:	NMED	LR195707	LR195707	LR198838
Date Sampled:	Residential[1]	8/15/2007	8/15/2007	10/5/2007
Analyte		Result	Result	Result
Total Petroleum Hydrocarbons	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Diesel Range Organics (C10-C22)	800 [2]	4.51	47.17	ND
Oil Range Organics (>C22-C36)	800 [2]	ND	ND	ND
Gasoline Range Organics (C6 -C10)	800 [2]	ND	40 J	ND
Volatile Organic Compounds	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
Xylenes, total	82	ND	122 J	ND
Semi-Volatile Organic Compounds (SVOCs)	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
All SVOCs	NV	NS	NS	ND
Metals Analysis TCLP	**mg/L**	**mg/L**	**mg/L**	**mg/L**
Lead TCLP	NA	NS	NS	ND
Ignitability / Burn Rate	**mm/sec**	**mm/sec**	**mm/sec**	**mm/sec**
Ignitability / Burn Rate	NA	> 2.2	> 2.2	NS

Notes:
NMED = New Mexico Environment Department
TCLP = Toxicity Characteristic Leaching Procedure
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
mm/sec = millimeters per second
NA = Not Applicable
ND = Not Detected
NS = Not Sampled
NV = No Value
[1]NMED, June 2006. Technical Background Document for Development of Soil Screening Levels, Revision 4.0
[2] NMED, October 2006. TPH Screening Guidelines (Unknown oil, Residential Direct Exposure, Table 2b.)
Bold value indicate analytes above NMED Soil Screening Levels (Revision 4.0, June 2006)

Table 8-3
OT-45 Excavation Confirmation Soil Analytical Results (February 2008)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	**Soil Screening Levels**	OT45-SW1	OT45-SW1a	OT45-SW2	OT45-SW2a	OT45-SW3	OT45-SW4	OT45-SW4a	OT45-SW5
Lab Sample ID:	**NMED**	LR206653	LR206904	LR206653	LR206904	LR206653	LR206653	LR206904	LR206653
Date Sampled:	**Residential[1]**	02/08/2008	02/12/2008	02/08/2008	02/12/2008	02/08/2008	02/08/2008	02/12/2008	02/08/2008
Analyte		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Total Petroleum Hydrocarbons	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Gasoline Range Organics (C6 -C10)	800 [2]	3.1	ND	ND	2.6 J	ND	ND	44	ND
Diesel Range Organics (C10-C22)	800 [2]	ND	ND	ND	1.1 J	ND	ND	32	5.4
Oil Range Organics (>C22-C36)	800 [2]	ND	ND	4.6 J	3.8 J	ND	3.7 J	ND	ND
Volatile Organic Compounds	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
1,2,4-Trimethylbenzene	58	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	24.8	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	10.3	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	128	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	271	ND	ND	ND	ND	ND	ND	254	ND
Naphthalene	79.5	ND	ND	ND	ND	ND	ND	21 J	ND
Toluene	252	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	82	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	62.1	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	62.1	ND	ND	ND	ND	ND	ND	192	ND
p-Isopropyltoluene	NV	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	60.6	ND	ND	ND	ND	3.7 J	ND	297	ND
tert-Butylbenzene	106	ND	ND	ND	ND	ND	ND	16 J	ND
Semi-Volatile Organic Compounds	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
2-Methylnaphthalene	NV	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	79.5	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

NMED = New Mexico Environment Department
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Estimated Result
ND = Not Detected
NV = No Value
SW = Sidewall Sample

[1] NMED, June 2006. Technical Background Document for Development of Soil Screening Levels, Revision 4.0
[2] NMED, October 2006. TPH Screening Guidelines (Unknown oil, Residential Direct Exposure, Table 2b.)
Bold value indicate analytes above NMED Soil Screening Levels (Revision 4.0, June 2006)

Table 8-3
OT-45 Excavation Confirmation Soil Analytical Results (February 2008)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	Soil Screening Levels	OT45-SW5a	OT45-SW6	OT45-SW6a	OT45-SW7	OT45-SW7a	OT45-SW8	OT45-SW9	OT45-SW9a
Lab Sample ID:	NMED	LR206904	LR206653	LR206904	LR206653	LR206904	LR206654	LR206654	LR206904
Date Sampled:	Residential	02/12/2008	02/08/2008	02/12/2008	02/08/2008	02/12/2008	02/08/2008	02/08/2008	02/12/2008
Analyte		Result	Result	Result	Result	Result	Result	Result	Result
Total Petroleum Hydrocarbons	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline Range Organics (C6 -C10)	800 [2]	15	33	20	4.3	ND	ND	4.2	ND
Diesel Range Organics (C10-C22)	800 [2]	62	68	6.0	ND	ND	ND	10	ND
Oil Range Organics (>C22-C36)	800 [2]	3.1 J	ND	ND	4.3 J	ND	ND	ND	4.7 J
Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
1,2,4-Trimethylbenzene	58	ND	724	ND	ND	1.4 J	ND	ND	ND
1,3,5-Trimethylbenzene	24.8	ND	241	ND	ND	ND	ND	ND	ND
Benzene	10.3	ND	129	ND	ND	ND	2.0 J	ND	ND
Ethylbenzene	128	ND	3,050	50	ND	9.8	4.2 J	42	ND
Isopropylbenzene (Cumene)	271	4.7 J	597	34	1.4 J	6.9	ND	23	ND
Naphthalene	79.5	53	1,100	77	16	6.1	ND	8.2	ND
Toluene	252	ND	1,180	ND	ND	ND	ND	ND	ND
Xylenes, total	82	ND	2,640	ND	ND	ND	ND	ND	ND
n-Butylbenzene	62.1	ND	172	35	ND	4.9 J	ND	ND	ND
n-Propylbenzene	62.1	ND	950	71	2.2 J	14	ND	38	ND
p-Isopropyltoluene	NV	ND	95	ND	ND	1.5 J	ND	2.4 J	ND
sec-Butylbenzene	60.6	53	330	48	7.3	7.7	ND	15	ND
tert-Butylbenzene	106	6.4	16 J	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2-Methylnaphthalene	NV	120 J	956	ND	ND	ND	ND	ND	ND
Naphthalene	79.5	63 J	1,250	59 J	ND	ND	ND	ND	ND

Notes:

NMED = New Mexico Environment Department
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Estimated Result
ND = Not Detected
NV = No Value
SW = Sidewall Sample

[1]NMED, June 2006. Technical Background Document for Development of Soil Screening Levels, Revision 4.0.
[2]NMED, October 2006. TPH Screening Guidelines (Unknown oil, Residential Direct Exposure, Table 2b.)
Bold value indicate analytes above NMED Soil Screening Levels (Rev 4.0, Jun 2006)

Table 8-3
OT-45 Excavation Confirmation Soil Analytical Results (February 2008)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	Soil Screening Levels	OT45-SW10	OT-45-SW10a	OT45-10A-OE-1	OT45-10A-OE-2	OT45-10A-OE-3	OT45-10A-OE-4	OT45-10A-OE-5	OT45-10A-OE-6
Lab Sample ID:	NMED	LR206654	LR206905	LR207676	LR207676	LR207676	LR207676	LR207676	LR207676
Date Sampled:	Residential[1]	02/08/2008	02/12/2008	02/25/2008	02/25/2008	02/25/2008	02/25/2008	02/25/2008	02/25/2008
Analyte		Result	Result	Result	Result	Result	Result	Result	Result
Total Petroleum Hydrocarbons	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline Range Organics (C6 -C10)	800 [2]	8.2	476	ND	ND	ND	ND	ND	ND
Diesel Range Organics (C10-C22)	800 [2]	ND	246	6.0 J	2.6	12	ND	1.4	ND
Oil Range Organics (>C22-C36)	800 [2]	ND	ND	118	ND	ND	ND	ND	ND
Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
1,2,4-Trimethylbenzene	58	ND	223	ND	ND	2.4 J	ND	ND	ND
1,3,5-Trimethylbenzene	24.8	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	10.3	ND	ND	ND	ND	ND	ND	1.5 J	ND
Ethylbenzene	128	ND	7,720	3.9 J	ND	ND	ND	6.3	ND
Isopropylbenzene (Cumene)	271	ND	1,020	1.7 J	1.2 J	1.1 J	ND	11	4.6 J
Naphthalene	79.5	4.8 J	633	ND	5.9	5.4	ND	ND	ND
Toluene	252	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	82	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	62.1	ND	258	ND	ND	ND	ND	ND	ND
n-Propylbenzene	62.1	ND	4,410	1.9 J	ND	ND	ND	7.3	ND
p-Isopropyltoluene	NV	ND	197	ND	ND	ND	ND	ND	1.1 J
sec-Butylbenzene	60.6	ND	650	ND	12	10	ND	12	7.1
tert-Butylbenzene	106	ND	ND	ND	3.0 J	ND	ND	1.2 J	ND
Semi-Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2-Methylnaphthalene	NV	ND	1,480	ND	ND	ND	ND	ND	ND
Naphthalene	79.5	ND	1,030	ND	ND	ND	ND	ND	ND

Notes:
NMED = New Mexico Environment Department
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Estimated Result
ND = Not Detected
NV = No Value
SW = Sidewall Sample

[1] NMED, June 2006. Technical Background Document for Development of Soil Screening Levels, Revision 4.0.
[2] NMED, October 2006. TPH Screening Guidelines (Unknown oil, Residential Direct Exposure, Table 2b.)
Bold value indicate analytes above NMED Soil Screening Levels (Rev 4.0, Jun 2006)

Table 8-3
OT-45 Excavation Confirmation Soil Analytical Results (February 2008)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	Soil Screening Levels	OT45-10A-OE-7	OT45-10A-OE-8	OT45-10A-OE-9	OT45-10A-OE-10	OT45-SW11	OT-45-SW11a	OT45-SW12	OT-45-SW13
Lab Sample ID:	NMED	LR207676	LR207676	LR207676	LR207676	LR206654	LR206905	LR206654	LR206905
Date Sampled:	Residential[1]	02/25/2008	02/25/2008	02/25/2008	02/25/2008	02/08/2008	02/12/2008	02/08/2008	02/12/2008
Analyte		Result	Result	Result	Result	Result	Result	Result	Result
Total Petroleum Hydrocarbons	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline Range Organics (C6 -C10)	800 [2]	ND	8.5	4.3	ND	ND	ND	ND	ND
Diesel Range Organics (C10-C22)	800 [2]	ND	23	13	ND	7.0	ND	ND	ND
Oil Range Organics (>C22-C36)	800 [2]	ND	ND	ND	ND	ND	ND	2.6 J	ND
Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
1,2,4-Trimethylbenzene	58	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	24.8	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	10.3	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	128	ND	ND	ND	4.2 J	ND	ND	ND	ND
Isopropylbenzene (Cumene)	271	6.2	ND	10	1.1 J	ND	ND	ND	ND
Naphthalene	79.5	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	252	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	82	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	62.1	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	62.1	2.6 J	ND	ND	1.1 J	ND	ND	ND	ND
p-Isopropyltoluene	NV	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	60.6	1.6 J	173 J	33	ND	22	ND	ND	ND
tert-Butylbenzene	106	ND	ND	2.6 J	ND	6.0	ND	ND	ND
Semi-Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2-Methylnaphthalene	NV	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	79.5	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
NMED = New Mexico Environment Department
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Estimated Result
ND = Not Detected
NV = No Value
SW = Sidewall Sample

[1]NMED, June 2006. Technical Background Document for Development of Soil Screening Levels, Revision 4
[2]NMED, October 2006. TPH Screening Guidelines (Unknown oil, Residential Direct Exposure, Table 2b.)
Bold value indicate analytes above NMED Soil Screening Levels (Rev 4.0, Jun 2006)

Table 8-3
OT-45 Excavation Confirmation Soil Analytical Results (February 2008)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	**Soil Screening Levels**	OT-45-SW14	OT-45-SW15	OT-45-SW16	OT45-SW17	OT45-SW18	OT45-SW19	OT45-SW20	OT45-SW21
Lab Sample ID:	**NMED**	LR206905	LR206905	LR206905	LR206939	LR206939	LR206939	LR206939	LR206939
Date Sampled:	**Residential[1]**	02/12/2008	02/12/2008	02/12/2008	02/13/2008	02/13/2008	02/13/2008	02/13/2008	02/13/2008
Analyte		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Total Petroleum Hydrocarbons	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Gasoline Range Organics (C6 -C10)	800 [2]	ND	ND	ND	ND	ND	ND	ND	ND
Diesel Range Organics (C10-C22)	800 [2]	ND	ND	ND	ND	ND	ND	ND	12
Oil Range Organics (>C22-C36)	800 [2]	2.8 J	21	4.6 J	ND	ND	ND	ND	84
Volatile Organic Compounds	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
1,2,4-Trimethylbenzene	58	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	24.8	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	10.3	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	128	ND	ND	ND	ND	ND	ND	ND	5.6
Isopropylbenzene (Cumene)	271	ND	ND	ND	ND	ND	ND	ND	2.4 J
Naphthalene	79.5	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	252	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	82	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	62.1	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	62.1	ND	ND	ND	ND	ND	ND	ND	2.7 J
p-Isopropyltoluene	NV	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	60.6	ND	ND	ND	ND	ND	ND	ND	1.8 J
tert-Butylbenzene	106	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
2-Methylnaphthalene	NV	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	79.5	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

NMED = New Mexico Environment Department

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

J = Estimated Result

ND = Not Detected

NV = No Value

SW = Sidewall Sample

[1]NMED, June 2006. Technical Background Document for Development of Soil Screen 4.0.

[2] NMED, October 2006. TPH Screening Guidelines (Unknown oil, Residential Direct I

Bold value indicate analytes above NMED Soil Screening Levels (Rev 4.0, Jun 2006)

Table 8-3
OT-45 Excavation Confirmation Soil Analytical Results (February 2008)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	**Soil Screening Levels**	OT45-SW22	OT45-SW23	OT45-SW24	OT45-SW25	OT45-SW26	OT45-SW27	OT45-SW28	OT45-SW29
Lab Sample ID:	**NMED**	LR206939	LR206939	LR206939	LR206940	LR206940	LR206940	LR206940	LR206940
Date Sampled:	**Residential[1]**	02/13/2008	02/13/2008	02/13/2008	02/13/2008	02/13/2008	02/13/2008	02/13/2008	02/13/2008
Analyte		**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Total Petroleum Hydrocarbons	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
Gasoline Range Organics (C6 -C10)	800 [2]	ND	ND	435	269	ND	ND	ND	93
Diesel Range Organics (C10-C22)	800 [2]	ND	ND	60	66	ND	ND	ND	25
Oil Range Organics (>C22-C36)	800 [2]	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
1,2,4-Trimethylbenzene	58	ND	ND	3,380	250	1.1 J	ND	ND	ND
1,3,5-Trimethylbenzene	24.8	ND	ND	677 J	ND	ND	ND	ND	ND
Benzene	10.3	ND	ND	250 J	76 J	2.0 J	ND	ND	ND
Ethylbenzene	128	ND	ND	10,300	588	3.9 J	ND	ND	ND
Isopropylbenzene (Cumene)	271	ND	ND	2,250	2,000	1.8 J	ND	ND	1,190
Naphthalene	79.5	ND	ND	945 J	858	ND	ND	ND	ND
Toluene	252	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes, total	82	ND	ND	1,580	ND	ND	ND	ND	ND
n-Butylbenzene	62.1	ND	ND	ND	746	ND	ND	ND	ND
n-Propylbenzene	62.1	ND	ND	3,240	3,120	2.0 J	ND	ND	1,360
p-Isopropyltoluene	NV	ND	ND	628 J	470	ND	ND	ND	ND
sec-Butylbenzene	60.6	ND	ND	1,370	1,460	1.8 J	ND	ND	1,490
tert-Butylbenzene	106	ND	ND	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds	**mg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**	**µg/kg**
2-Methylnaphthalene	NV	ND	ND	471	397	ND	ND	ND	ND
Naphthalene	79.5	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

NMED = New Mexico Environment Department
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Estimated Result
ND = Not Detected
NV = No Value
SW = Sidewall Sample

ing Levels, Revision 4.0.
exposure, Table 26.)

[1]NMED, June 2006. Technical Background Document for Devel
[2]NMED, October 2006. TPH Screening Guidelines (Unknown o
Bold value indicate analytes above NMED Soil Screening Levels

Table 8-3
OT-45 Excavation Confirmation Soil Analytical Results (February 2008)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Client Sample ID:	Soil Screening Levels	OT45-SW30	OT45-SW31	OT45-SW32	OT45-Bottom 1	OT45-Bottom 2	OT45-Bottom 3
Lab Sample ID:	NMED	LR206940	LR206940	LR206940	LR206654	LR206654	LR206940
Date Sampled:	Residential[1]	02/13/2008	02/13/2008	02/13/2008	02/08/2008	02/08/2008	2/13/2008
Analyte		Result	Result	Result	Result	Result	Result
Total Petroleum Hydrocarbons	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline Range Organics (C6 -C10)	800 [2]	6.5	136	ND	ND	ND	ND
Diesel Range Organics (C10-C22)	800 [2]	3.1	15	ND	3.3	ND	ND
Oil Range Organics (>C22-C36)	800 [2]	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
1,2,4-Trimethylbenzene	58	146	41	ND	9.0	ND	4.5 J
1,3,5-Trimethylbenzene	24.8	37	ND	ND	ND	ND	1.5 J
Benzene	10.3	12 J	ND	ND	3.5 J	ND	ND
Ethylbenzene	128	248	137	ND	28	ND	3.2 J
Isopropylbenzene (Cumene)	271	59	53	ND	4.7 J	ND	1.0 J
Naphthalene	79.5	28	ND	ND	ND	ND	ND
Toluene	252	ND	ND	ND	15	ND	ND
Xylenes, total	82	124	24 J	ND	28	ND	3.1 J
n-Butylbenzene	62.1	20	17 J	ND	2.8 J	ND	ND
n-Propylbenzene	62.1	86	79	ND	6.2	ND	1.9 J
p-Isopropyltoluene	NV	24	12 J	ND	1.2 J	ND	ND
sec-Butylbenzene	60.6	345	39	ND	1.8 J	ND	1.9 J
tert-Butylbenzene	106	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds	mg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
2-Methylnaphthalene	NV	ND	ND	ND	ND	ND	ND
Naphthalene	79.5	ND	ND	ND	ND	ND	ND

Notes:

NMED = New Mexico Environment Department
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
J = Estimated Result
ND = Not Detected
NV = No Value
SW = Sidewall Sample

[1] ...opment of Soil Screening Levels, Revision 4.0.
(...if, Residential Direct Exposure, Table 2b.)
[2] (Rev 4.0, Jun 2006)

Table 9-1(a)
OT-45 Detected Soil Analytical Data
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-DP01-6	OT45-SW1	OT45-SW1a	OT45-SW2	OT45-SW2a	OT45-SW3	OT45-SW4	OT45-SW4a	OT45-SW5
Date Sampled	6/4/2007	2/8/2008	2/12/2008	2/8/2008	2/12/2008	2/8/2008	2/8/2008	2/12/2008	2/8/2008
Sample Depth (ft bgs)	6	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	N/A	< 3	< 3	< 3	< 3	< 3	< 3	44	< 3
Gasoline Range Organics (C6 -C10)	0.72 J	3.1	< 3	3.1	2.6 J	< 3	3.4	90	3
Diesel Range Organics (C10-C22)	2.4 J,B	< 3	< 3	< 3	1.1 J	< 3	< 3	32	5.4
Oil Range Organics (>C22-C36)	< 5.2	< 5	< 5	4.6 J	3.8 J	< 5	3.7 J	< 5	< 5
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
1,3,5-Trimethylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
2-Butanone	0.0032 J	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1
Acetone	0.014 J	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05
Benzene	0.0025 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
Ethylbenzene	0.0024 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
Isopropylbenzene	0.0027 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.254	< 0.005
m-Xylene & p-Xylene	< 0.0031	N/A	< 0.005	N/A	< 0.005	N/A	N/A	< 0.025	N/A
n-Butylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
n-Propylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.192	< 0.005
Naphthalene	0.00098 J,B	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.021 J	< 0.005
o-Xylene	< 0.0031	N/A	< 0.005	N/A	< 0.005	N/A	N/A	< 0.025	N/A
p-Isopropyltoluene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
sec-Butylbenzene	0.002 J	< 0.005	< 0.005	< 0.005	< 0.005	0.0037 J	< 0.005	0.297	< 0.005
tert-Butylbenzene	0.00068 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.016 J	< 0.005
Toluene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
Xylenes (total)	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
SVOCs (mg/kg)									
2-Methylnaphthalene	< 0.86	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	< 0.86	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not detected. The reporting limit or estimated quantitation limit is shown.
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
B = Method blank contamination
J = Estimated result
SW = Sidewall Sample
N/A = Data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compound

Table 9-1(a)
OT-45 Detected Soil Analytical Data
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW5a	OT45-SW6	OT45-SW6a	OT45-SW7	OT45-SW7a	OT45-SW8	OT45-SW9	OT45-10A-OE-1	OT45-10A-OE-2
Date Sampled	2/12/2008	2/8/2008	2/12/2008	2/8/2008	2/12/2008	2/8/2008	2/8/2008	2/25/2008	2/25/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	15	33	20	4.3	< 3	< 3	4.2	< 3	< 3
Gasoline Range Organics (C6 -C10)	56	287	17	< 3	< 3	2.7 J	4.4	N/A	N/A
Diesel Range Organics (C10-C22)	62	68	6	< 3	< 3	< 3	10	6 J	2.6
Oil Range Organics (>C22-C36)	3.1 J	< 5	< 5	4.3 J	< 5	< 5	< 5	118	< 5
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.005	0.724	< 0.025	< 0.005	0.0014 J	< 0.005	< 0.005	< 0.005	< 0.005
1,3,5-Trimethylbenzene	< 0.005	0.241	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2-Butanone	< 0.1	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acetone	< 0.05	< 0.25	< 0.25	< 0.05	< 0.05	< 0.05	< 0.005	< 0.05	< 0.05
Benzene	< 0.005	0.129	< 0.025	< 0.005	< 0.005	0.002 J	< 0.005	< 0.005	< 0.005
Ethylbenzene	< 0.005	3.05	0.05	< 0.005	0.0098	0.0042 J	0.042	0.0039 J	< 0.005
Isopropylbenzene	0.0047 J	0.597	0.034	0.0014 J	0.0069	< 0.005	0.023	0.0017 J	0.0012 J
m-Xylene & p-Xylene	< 0.005	N/A	< 0.025	N/A	< 0.005	N/A	N/A	N/A	N/A
n-Butylbenzene	< 0.005	0.172	0.035	< 0.005	0.0049 J	< 0.005	< 0.005	< 0.005	< 0.005
n-Propylbenzene	< 0.005	0.95	0.071	0.0022 J	0.014	< 0.005	0.038	0.0019 J	< 0.005
Naphthalene	0.053	1.1	0.077	0.016	0.0061	< 0.005	0.0082	< 0.005	0.0059
o-Xylene	< 0.005	N/A	< 0.025	N/A	< 0.005	N/A	N/A	N/A	N/A
p-Isopropyltoluene	< 0.005	0.095	< 0.025	< 0.005	0.0015 J	< 0.005	0.0024 J	< 0.005	< 0.005
sec-Butylbenzene	0.053	0.33	0.048	0.0073	0.0077	< 0.005	0.015	< 0.005	0.012
tert-Butylbenzene	0.0064	0.016 J	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.003 J
Toluene	< 0.005	1.18	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes (total)	< 0.005	2.64	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
SVOCs (mg/kg)									
2-Methylnaphthalene	0.12 J	0.956	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 1.5	< 0.3
Naphthalene	0.063 J	1.25	0.059 J	< 0.3	< 0.3	< 0.3	< 0.3	< 1.5	< 0.3

Notes:
< = Not detected. The reporting limit or estimated quantitation limit is shown.
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
B = Method blank contamination
J = Estimated result
SW = Sidewall Sample
N/A = Data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compound

Table 9-1(a)
OT-45 Detected Soil Analytical Data
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-10A-OE-3	OT45-10A-OE-4	OT45-10A-OE-5	OT45-10A-OE-6	OT45-10A-OE-7	OT45-10A-OE-8	OT45-10A-OE-9	OT45-10A-OE-10	OT-45-SW11a
Date Sampled	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/12/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	< 3	< 3	< 3	< 3	< 3	8.5	4.3	< 3	< 3
Gasoline Range Organics (C6 -C10)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3
Diesel Range Organics (C10-C22)	12	< 1	1.4	< 1	< 1	23	13	< 1	< 3
Oil Range Organics (>C22-C36)	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	0.0024 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
1,3,5-Trimethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
2-Butanone	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 5	< 0.1	< 0.1	< 0.1
Acetone	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 2.5	< 0.05	< 0.05	< 0.05
Benzene	< 0.005	< 0.005	0.0015 J	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005	0.0063	< 0.005	< 0.005	< 0.25	< 0.005	0.0042 J	< 0.005
Isopropylbenzene	0.0011 J	< 0.005	0.011	0.0046 J	0.0062	< 0.25	0.01	0.0011 J	< 0.005
m-Xylene & p-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005
n-Butylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
n-Propylbenzene	< 0.005	< 0.005	0.0073	< 0.005	0.0026 J	< 0.25	< 0.005	0.0011 J	< 0.005
Naphthalene	0.0054	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
o-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 0.005
p-Isopropyltoluene	< 0.005	< 0.005	< 0.005	0.0011 J	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
sec-Butylbenzene	0.01	< 0.005	0.012	0.0071	0.0016 J	0.173 J	0.033	< 0.005	< 0.005
tert-Butylbenzene	< 0.005	< 0.005	0.0012 J	< 0.005	< 0.005	< 0.25	0.0026 J	< 0.005	< 0.005
Toluene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
Xylenes (total)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
SVOCs (mg/kg)									
2-Methylnaphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not detected. The reporting limit or estimated quantitation limit is shown.
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
B = Method blank contamination
J = Estimated result
SW = Sidewall Sample
N/A = Data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compound

Table 9-1(a)
OT-45 Detected Soil Analytical Data
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW12	OT-45-SW13	OT-45-SW14	OT-45-SW15	OT-45-SW16	OT45-SW17	OT45-SW18	OT45-SW19	OT45-SW20
Date Sampled	2/8/2008	2/12/2008	2/12/2008	2/12/2008	2/12/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Gasoline Range Organics (C6 -C10)	2.6 J	< 3	< 3	< 3	2.1 J	< 3	< 3	< 3	< 3
Diesel Range Organics (C10-C22)	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Oil Range Organics (>C22-C36)	2.6 J	< 5	2.8 J	21	4.6 J	< 5	< 5	< 5	< 5
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,3,5-Trimethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2-Butanone	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acetone	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Isopropylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
m-Xylene & p-Xylene	N/A	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A
n-Butylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
n-Propylbenzene	< 0.005	< 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	< 0.005	< 0.005	< 0.005
o-Xylene	N/A	< 0.005	< 0.005	< 0.005	< 0.005	N/A	N/A	N/A	N/A
p-Isopropyltoluene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
sec-Butylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
tert-Butylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes (total)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
SVOCs (mg/kg)									
2-Methylnaphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not detected. The reporting limit or estimated quantitation limit is shown.
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
B = Method blank contamination
J = Estimated result
SW = Sidewall Sample
N/A = Data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compound

Table 9-1(a)
OT-45 Detected Soil Analytical Data
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW21	OT45-SW22	OT45-SW23	OT45-SW24	OT45-SW25	OT45-SW26	OT45-SW27	OT45-SW28	OT45-SW29
Date Sampled	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	< 3	< 3	< 3	435	269	< 3	< 3	< 3	93
Gasoline Range Organics (C6 -C10)	< 3	< 3	< 3	177	58	< 3	< 3	< 3	34
Diesel Range Organics (C10-C22)	12	< 3	< 3	60	66	< 3	< 3	< 3	25
Oil Range Organics (>C22-C36)	84	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.005	< 0.005	< 0.005	3.38	0.25	0.0011 J	< 0.005	< 0.005	< 0.25
1,3,5-Trimethylbenzene	< 0.005	< 0.005	< 0.005	0.677 J	< 0.25	< 0.005	< 0.005	< 0.005	< 0.25
2-Butanone	< 0.1	< 0.1	< 0.1	< 20	< 5	< 0.1	< 0.1	< 0.1	< 5
Acetone	< 0.05	< 0.05	< 0.05	< 10	< 2.5	< 0.05	< 0.05	< 0.05	< 2.5
Benzene	< 0.005	< 0.005	< 0.005	0.25 J	0.076 J	0.002 J	< 0.005	< 0.005	< 0.25
Ethylbenzene	0.0056	< 0.005	< 0.005	10.3	0.588	0.0039 J	< 0.005	< 0.005	< 0.25
Isopropylbenzene	0.0024 J	< 0.005	< 0.005	2.25	2	0.0018 J	< 0.005	< 0.005	1.19
m-Xylene & p-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n-Butylbenzene	< 0.005	< 0.005	< 0.005	< 1	0.746	< 0.005	< 0.005	< 0.005	< 0.25
n-Propylbenzene	0.0027 J	< 0.005	< 0.005	3.24	3.12	0.002 J	< 0.005	< 0.005	1.36
Naphthalene	< 0.005	< 0.005	< 0.005	0.945 J	0.858	< 0.005	< 0.005	< 0.005	< 0.25
o-Xylene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
p-Isopropyltoluene	< 0.005	< 0.005	< 0.005	0.628 J	0.47	< 0.005	< 0.005	< 0.005	< 0.25
sec-Butylbenzene	0.0018 J	< 0.005	< 0.005	1.37	1.46	0.0018 J	< 0.005	< 0.005	1.49
tert-Butylbenzene	< 0.005	< 0.005	< 0.005	< 1	< 0.25	< 0.005	< 0.005	< 0.005	< 0.25
Toluene	< 0.005	< 0.005	< 0.005	< 1	< 0.25	< 0.005	< 0.005	< 0.005	< 0.25
Xylenes (total)	< 0.005	< 0.005	< 0.005	1.58	< 0.25	< 0.005	< 0.005	< 0.005	< 0.25
SVOCs (mg/kg)									
2-Methylnaphthalene	< 0.3	< 0.3	< 0.3	0.471	0.397	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not detected. The reporting limit or estimated quantitation limit is shown.
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
B = Method blank contamination
J = Estimated result
SW = Sidewall Sample
N/A = Data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compound

Table 9-1(a)
OT-45 Detected Soil Analytical Data
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW30	OT45-SW31	OT45-SW32	OT45-Bottom 1	OT45-Bottom 2	OT45-Bottom 3
Date Sampled	2/13/2008	2/13/2008	2/13/2008	2/8/2008	2/8/2008	2/13/2008
Sample Depth (ft bgs)	5	5	5	7	7	7
TPHs (mg/kg)						
TPH-DHS (Gasoline)	6.5	136	< 3	< 3	< 3	< 3
Gasoline Range Organics (C6 -C10)	10	51	< 3	7	1.7 J	< 3
Diesel Range Organics (C10-C22)	3.1	15	< 3	3.3	< 3	< 3
Oil Range Organics (>C22-C36)	< 5	< 5	< 5	< 5	< 5	< 5
VOCs (mg/kg)						
1,2,4-Trimethylbenzene	0.146	0.041	< 0.005	0.009	< 0.005	0.0045 J
1,3,5-Trimethylbenzene	0.037	< 0.025	< 0.005	< 0.005	< 0.005	0.0015 J
2-Butanone	< 0.25	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1
Acetone	< 0.125	< 0.25	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	0.012 J	< 0.025	< 0.005	0.0035 J	< 0.005	< 0.005
Ethylbenzene	0.248	0.137	< 0.005	0.028	< 0.005	0.0032 J
Isopropylbenzene	0.059	0.053	< 0.005	0.0047 J	< 0.005	0.001 J
m-Xylene & p-Xylene	N/A	N/A	N/A	N/A	N/A	N/A
n-Butylbenzene	0.02	0.017 J	< 0.005	0.0028 J	< 0.005	< 0.005
n-Propylbenzene	0.086	0.079	< 0.005	0.0062	< 0.005	0.0019 J
Naphthalene	0.028	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005
o-Xylene	N/A	N/A	N/A	N/A	N/A	N/A
p-Isopropyltoluene	0.024	0.012 J	< 0.005	0.0012 J	< 0.005	< 0.005
sec-Butylbenzene	0.345	0.039	< 0.005	0.0018 J	< 0.005	0.0019 J
tert-Butylbenzene	< 0.0125	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	< 0.0125	< 0.025	< 0.005	0.015	< 0.005	< 0.005
Xylenes (total)	0.124	0.024 J	< 0.005	0.028	< 0.005	0.0031 J
SVOCs (mg/kg)						
2-Methylnaphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not detected. The reporting limit or estimated quantitation limit is shown.
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
B = Method blank contamination
J = Estimated result
SW = Sidewall Sample
N/A = Data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compound

Table 9-1(b)
OT-45 Detected Groundwater Analytical Data
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	S51-MW1	S51-MW3	S51-MW4	S51-MW5	S51-MW7	S51-MW7-A
Date Sampled	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007
General Chemistry (mg/L)						
Total Dissolved Solids	3,200	23,000 Q	4,900 Q	3,400	8,200 Q	7,600 Q
Volatile Organic Compounds (mg/L)						
Carbon tetrachloride	< 0.001	< 0.001	< 0.001	< 0.001	0.0023	0.0033
Chlorobenzene	0.00077 J	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Chloroform	< 0.001	0.00027 J	0.00066 J	0.0023	0.0034	0.0057
1,2-Dichlorobenzene	0.00021 J	< 0.001	< 0.001	< 0.001	0.00057 J	0.0008 J
1,3-Dichlorobenzene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.00027 J
1,4-Dichlorobenzene	0.00031 J	< 0.001	< 0.001	< 0.001	< 0.001	0.00025 J
Dichlorodifluoromethane	< 0.002	< 0.002	< 0.002	< 0.002	0.00045 J	0.00071 J
1,1-Dichloroethane	< 0.001	0.0025	0.0002 J	< 0.001	0.00048 J	0.00052 J
1,2-Dichloroethane	< 0.001	< 0.001	< 0.001	< 0.001	0.00059 J	0.00096 J
1,1-Dichloroethene	< 0.001	0.0028	< 0.001	< 0.001	< 0.001	< 0.001
cis-1,2-Dichloroethene	< 0.001	0.00018 J	< 0.001	< 0.001	0.00044 J	0.00048 J
Methylene chloride	< 0.005	0.00035 J	0.00039 J	0.00049 J	< 0.005	< 0.005
Tetrachloroethene	< 0.001	0.00059 J	0.002	< 0.001	< 0.001	0.00025 J
Trichloroethene	0.0006 J	0.0065	0.00051 J	< 0.001	0.0029	0.0047
2-Chlorotoluene	0.00041 J	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Semi-Volatile Organic Compounds (mg/L)						
bis(2-Ethylhexyl)phthalate	0.003 J,B	0.0026 J,B	< 0.01	< 0.01	0.0031 J	< 0.01

Notes:
< = Not detected. The reporting limit is shown.
mg/L = Milligrams per liter
J = Estimated result
B = Method blank contamination
Q = Elevated reporting limit

Table 9-2(a)
OT-45 Soil Analytical Data Used for Risk Assessment
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-DP01-6	OT45-SW1	OT45-SW1a	OT45-SW2	OT45-SW2a	OT45-SW3	OT45-SW4	OT45-SW4a	OT45-SW5
Date Sampled	6/4/2007	2/8/2008	2/12/2008	2/8/2008	2/12/2008	2/8/2008	2/8/2008	2/12/2008	2/8/2008
Sample Depth (ft bgs)	6	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	N/A	< 3	< 3	< 3	< 3	< 3	< 3	44	< 3
Gasoline Range Organics (C6 -C10)	0.72	3.1	< 3	3.1	2.6	< 3	3.4	90	3
TPH (C10-C36)	5	< 4	< 4	6.1	4.9	< 4	5.2	34.5	7.9
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
1,3,5-Trimethylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
2-Butanone	0.0032	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.5	< 0.1
Acetone	0.014	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.25	< 0.05
Benzene	0.0025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
Ethylbenzene	0.0024	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
Isopropylbenzene	0.0027	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.254	< 0.005
n-Butylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
n-Propylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.192	< 0.005
Naphthalene	0.21549	< 0.1525	< 0.1525	< 0.1525	< 0.1525	< 0.1525	< 0.1525	0.0855	< 0.1525
p-Isopropyltoluene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
sec-Butylbenzene	0.002	< 0.005	< 0.005	< 0.005	< 0.005	0.0037	< 0.005	0.297	< 0.005
tert-Butylbenzene	0.00068	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.016	< 0.005
Toluene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
Xylenes (total)	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005
SVOCs (mg/kg)									
2-Methylnaphthalene	< 0.86	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not deteced. Reporting limit or estimated quantitation limit shown
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
SW = Sidewall Sample
N/A = data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compound

Table 9-2(a)
OT-45 Soil Analytical Data Used for Risk Assessment
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW5a	OT45-SW6	OT45-SW6a	OT45-SW7	OT45-SW7a	OT45-SW8	OT45-SW9	OT45-10A-OE-1	OT45-10A-OE-2
Date Sampled	2/12/2008	2/8/2008	2/12/2008	2/8/2008	2/12/2008	2/8/2008	2/8/2008	2/25/2008	2/25/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	15	33	20	4.3	< 3	< 3	4.2	< 3	< 3
Gasoline Range Organics (C6 -C10)	56	287	17	< 3	< 3	2.7	4.4	N/A	N/A
TPH (C10-C36)	65.1	70.5	8.5	5.8	< 4	< 4	12.5	124	5.1
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.005	0.724	< 0.025	< 0.005	0.0014	< 0.005	< 0.005	< 0.005	< 0.005
1,3,5-Trimethylbenzene	< 0.005	0.241	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2-Butanone	< 0.1	< 0.5	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acetone	< 0.05	< 0.25	< 0.25	< 0.05	< 0.05	< 0.05	< 0.005	< 0.05	< 0.05
Benzene	< 0.005	0.129	< 0.025	< 0.005	< 0.005	0.002	< 0.005	< 0.005	< 0.005
Ethylbenzene	< 0.005	3.05	0.05	< 0.005	0.0098	0.0042	0.042	0.0039	< 0.005
Isopropylbenzene	0.0047	0.597	0.034	0.0014	0.0069	< 0.005	0.023	0.0017	0.0012
n-Butylbenzene	< 0.005	0.172	0.035	< 0.005	0.0049	< 0.005	< 0.005	< 0.005	< 0.005
n-Propylbenzene	< 0.005	0.95	0.071	0.0022	0.014	< 0.005	0.038	0.0019	< 0.005
Naphthalene	0.058	1.175	0.068	0.083	0.07805	< 0.1525	0.0791	< 0.7525	0.07795
p-Isopropyltoluene	< 0.005	0.095	< 0.025	< 0.005	0.0015	< 0.005	0.0024	< 0.005	< 0.005
sec-Butylbenzene	0.053	0.33	0.048	0.0073	0.0077	< 0.005	0.015	< 0.005	0.012
tert-Butylbenzene	0.0064	0.016	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.003
Toluene	< 0.005	1.18	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes (total)	< 0.005	2.64	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
SVOCs (mg/kg)									
2-Methylnaphthalene	0.12	0.956	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 1.5	< 0.3

Notes:
< = Not deteced. Reporting limit or estimated quantitation limit shown
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
SW = Sidewall Sample
N/A = data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compoun

Table 9-2(a)
OT-45 Soil Analytical Data Used for Risk Assessment
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-10A-OE-3	OT45-10A-OE-4	OT45-10A-OE-5	OT45-10A-OE-6	OT45-10A-OE-7	OT45-10A-OE-8	OT45-10A-OE-9	OT45-10A-OE-10	OT-45-SW11a
Date Sampled	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/12/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	< 3	< 3	< 3	< 3	< 3	8.5	4.3	< 3	< 3
Gasoline Range Organics (C6 -C10)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	< 3
TPH (C10-C36)	14.5	< 3	3.9	< 3	< 3	25.5	15.5	< 3	< 4
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	0.0024	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
1,3,5-Trimethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
2-Butanone	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 5	< 0.1	< 0.1	< 0.1
Acetone	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 2.5	< 0.05	< 0.05	< 0.05
Benzene	< 0.005	< 0.005	0.0015	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005	0.0063	< 0.005	< 0.005	< 0.25	< 0.005	0.0042	< 0.005
Isopropylbenzene	0.0011	< 0.005	0.011	0.0046	0.0062	< 0.25	0.01	0.0011	< 0.005
n-Butylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
n-Propylbenzene	< 0.005	< 0.005	0.0073	< 0.005	0.0026	< 0.25	< 0.005	0.0011	< 0.005
Naphthalene	0.0777	< 0.1525	< 0.1525	< 0.1525	< 0.1525	< 0.275	< 0.1525	< 0.1525	< 0.1525
p-Isopropyltoluene	< 0.005	< 0.005	< 0.005	0.0011	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
sec-Butylbenzene	0.01	< 0.005	0.012	0.0071	0.0016	0.173	0.033	< 0.005	< 0.005
tert-Butylbenzene	< 0.005	< 0.005	0.0012	< 0.005	< 0.005	< 0.25	0.0026	< 0.005	< 0.005
Toluene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
Xylenes (total)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005
SVOCs (mg/kg)									
2-Methylnaphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not deteced. Reporting limit or estimated quantitation limit shown
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
SW = Sidewall Sample
N/A = data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compoun

Table 9-2(a)
OT-45 Soil Analytical Data Used for Risk Assessment
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW12	OT-45-SW13	OT-45-SW14	OT-45-SW15	OT-45-SW16	OT45-SW17	OT45-SW18	OT45-SW19	OT45-SW20
Date Sampled	2/8/2008	2/12/2008	2/12/2008	2/12/2008	2/12/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3
Gasoline Range Organics (C6 -C10)	2.6	< 3	< 3	< 3	2.1	< 3	< 3	< 3	< 3
TPH (C10-C36)	4.1	< 4	4.3	22.5	6.1	< 4	< 4	< 4	< 4
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,3,5-Trimethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
2-Butanone	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acetone	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Isopropylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
n-Butylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
n-Propylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	< 0.1525	< 0.1525	< 0.1525	< 0.1525	< 0.1525	< 0.1525	< 0.1525	< 0.1525	< 0.1525
p-Isopropyltoluene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
sec-Butylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
tert-Butylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes (total)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
SVOCs (mg/kg)									
2-Methylnaphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not deteced. Reporting limit or estimated quantitation limit shown
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
SW = Sidewall Sample
N/A = data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compoun

Table 9-2(a)
OT-45 Soil Analytical Data Used for Risk Assessment
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW21	OT45-SW22	OT45-SW23	OT45-SW24	OT45-SW25	OT45-SW26	OT45-SW27	OT45-SW28	OT45-SW29
Date Sampled	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5
TPHs (mg/kg)									
TPH-DHS (Gasoline)	< 3	< 3	< 3	435	269	< 3	< 3	< 3	93
Gasoline Range Organics (C6 -C10)	< 3	< 3	< 3	177	58	< 3	< 3	< 3	34
TPH (C10-C36)	96	< 4	< 4	62.5	68.5	< 4	< 4	< 4	27.5
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	< 0.005	< 0.005	< 0.005	3.38	0.25	0.0011	< 0.005	< 0.005	< 0.25
1,3,5-Trimethylbenzene	< 0.005	< 0.005	< 0.005	0.677	< 0.25	< 0.005	< 0.005	< 0.005	< 0.25
2-Butanone	< 0.1	< 0.1	< 0.1	< 20	< 5	< 0.1	< 0.1	< 0.1	< 5
Acetone	< 0.05	< 0.05	< 0.05	< 10	< 2.5	< 0.05	< 0.05	< 0.05	< 2.5
Benzene	< 0.005	< 0.005	< 0.005	0.25	0.076	0.002	< 0.005	< 0.005	< 0.25
Ethylbenzene	0.0056	< 0.005	< 0.005	10.3	0.588	0.0039	< 0.005	< 0.005	< 0.25
Isopropylbenzene	0.0024	< 0.005	< 0.005	2.25	2	0.0018	< 0.005	< 0.005	1.19
n-Butylbenzene	< 0.005	< 0.005	< 0.005	< 1	0.746	< 0.005	< 0.005	< 0.005	< 0.25
n-Propylbenzene	0.0027	< 0.005	< 0.005	3.24	3.12	0.002	< 0.005	< 0.005	1.36
Naphthalene	< 0.1525	< 0.1525	< 0.1525	0.5475	0.504	< 0.1525	< 0.1525	< 0.1525	< 0.275
p-Isopropyltoluene	< 0.005	< 0.005	< 0.005	0.628	0.47	< 0.005	< 0.005	< 0.005	< 0.25
sec-Butylbenzene	0.0018	< 0.005	< 0.005	1.37	1.46	0.0018	< 0.005	< 0.005	1.49
tert-Butylbenzene	< 0.005	< 0.005	< 0.005	< 1	< 0.25	< 0.005	< 0.005	< 0.005	< 0.25
Toluene	< 0.005	< 0.005	< 0.005	< 1	< 0.25	< 0.005	< 0.005	< 0.005	< 0.25
Xylenes (total)	< 0.005	< 0.005	< 0.005	1.58	< 0.25	< 0.005	< 0.005	< 0.005	< 0.25
SVOCs (mg/kg)									
2-Methylnaphthalene	< 0.3	< 0.3	< 0.3	0.47	0.307	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not deteced. Reporting limit or estimated quantitation limit shown
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
SW = Sidewall Sample
N/A = data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compoun

Table 9-2(a)
OT-45 Soil Analytical Data Used for Risk Assessment
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW30	OT45-SW31	OT45-SW32	OT45-Bottom 1	OT45-Bottom 2	OT45-Bottom 3
Date Sampled	2/13/2008	2/13/2008	2/13/2008	2/8/2008	2/8/2008	2/13/2008
Sample Depth (ft bgs)	5	5	5	7	7	7
TPHs (mg/kg)						
TPH-DHS (Gasoline)	6.5	136	< 3	< 3	< 3	< 3
Gasoline Range Organics (C6 -C10)	10	51	< 3	7	1.7	< 3
TPH (C10-C36)	5.6	17.5	< 4	5.8	< 4	< 4
VOCs (mg/kg)						
1,2,4-Trimethylbenzene	0.146	0.041	< 0.005	0.009	< 0.005	0.0045
1,3,5-Trimethylbenzene	0.037	< 0.025	< 0.005	< 0.005	< 0.005	0.0015
2-Butanone	< 0.25	< 0.5	< 0.1	< 0.1	< 0.1	< 0.1
Acetone	< 0.125	< 0.25	< 0.05	< 0.05	< 0.05	< 0.05
Benzene	0.012	< 0.025	< 0.005	0.0035	< 0.005	< 0.005
Ethylbenzene	0.248	0.137	< 0.005	0.028	< 0.005	0.0032
Isopropylbenzene	0.059	0.053	< 0.005	0.0047	< 0.005	0.001
n-Butylbenzene	0.02	0.017	< 0.005	0.0028	< 0.005	< 0.005
n-Propylbenzene	0.086	0.079	< 0.005	0.0062	< 0.005	0.0019
Naphthalene	0.164	< 0.1625	< 0.1525	< 0.1525	< 0.1525	< 0.1525
p-Isopropyltoluene	0.024	0.012	< 0.005	0.0012	< 0.005	< 0.005
sec-Butylbenzene	0.345	0.039	< 0.005	0.0018	< 0.005	0.0019
tert-Butylbenzene	< 0.0125	< 0.025	< 0.005	< 0.005	< 0.005	< 0.005
Toluene	< 0.0125	< 0.025	< 0.005	0.015	< 0.005	< 0.005
Xylenes (total)	0.124	0.024	< 0.005	0.028	< 0.005	0.0031
SVOCs (mg/kg)						
2-Methylnaphthalene	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Notes:
< = Not deteced. Reporting limit or estimated quantitation limit shown
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
SW = Sidewall Sample
N/A = data not available
TPH = Total petroleum hydrocarbon
VOC = Volatile organic compound
SVOC = Semi-volatile organic compoun

Table 9-2(b)
OT-45 Groundwater Analytical Data Used for Risk Assessment
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	S51-MW1	S51-MW3	S51-MW4	S51-MW5	S51-MW7-AVE
Date Sampled	6/4/2007	6/4/2007	6/4/2007	6/4/2007	6/4/2007
General Chemistry (mg/L)					
Total Dissolved Solids	3,200	23,000	4,900	3,400	7,900
Volatile Organic Compounds (mg/L)					
Carbon tetrachloride	< 0.001	< 0.001	< 0.001	< 0.001	0.0028
Chlorobenzene	0.00077	< 0.001	< 0.001	< 0.001	< 0.001
Chloroform	< 0.001	0.00027	0.00066	0.0023	0.00455
1,2-Dichlorobenzene	0.00021	< 0.001	< 0.001	< 0.001	0.000685
1,3-Dichlorobenzene	< 0.001	< 0.001	< 0.001	< 0.001	0.000385
1,4-Dichlorobenzene	0.00031	< 0.001	< 0.001	< 0.001	0.000375
Dichlorodifluoromethane	< 0.002	< 0.002	< 0.002	< 0.002	0.00058
1,1-Dichloroethane	< 0.001	0.0025	0.0002	< 0.001	0.0005
1,2-Dichloroethane	< 0.001	< 0.001	< 0.001	< 0.001	0.000775
1,1-Dichloroethene	< 0.001	0.0028	< 0.001	< 0.001	< 0.001
cis-1,2-Dichloroethene	< 0.001	0.00018	< 0.001	< 0.001	0.00046
Methylene chloride	< 0.005	0.00035	0.00039	0.00049	< 0.005
Tetrachloroethene	< 0.001	0.00059	0.002	< 0.001	0.000375
Trichloroethene	0.0006	0.0065	0.00061	< 0.001	0.0038
2-Chlorotoluene	0.00041	< 0.001	< 0.001	< 0.001	< 0.001
Semi-Volatile Organic Compounds (mg/L)					
bis(2-Ethylhexyl)phthalate	0.003	0.0026	< 0.01	< 0.01	0.00405

Notes:
mg/L = milligrams per liter

Table 9-3
OT-45 Chemicals of Potential Concern
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Chemicals	Soil	Groundwater
1,1-Dichloroethane	ND	D
1,1-Dichloroethene	ND	D
1,2,4-Trimethylbenzene	D	ND
1,2-Dichlorobenzene	ND	D
1,2-Dichloroethane	ND	D
1,3,5-Trimethylbenzene	D	ND
1,3-Dichlorobenzene	ND	D
1,4-Dichlorobenzene	ND	D
2-Butanone (MEK)	D	ND
2-Chlorotoluene	ND	D
2-Methylnaphthalene	D	ND
Acetone	D	ND
Benzene	D	ND
bis(2-Ethylhexyl)phthalate	ND	D
Carbon tetrachloride	ND	D
Chlorobenzene	ND	D
Chloroform	ND	D
cis-1,2-Dichloroethene	ND	D
Dichlorodifluoromethane	ND	D
Ethylbenzene	D	ND
Isopropylbenzene	D	ND
Methylene chloride	ND	D
Naphthalene	D	ND
n-Butylbenzene	D	ND
n-Propylbenzene	D	ND
p-Isopropyltoluene	D	ND
sec-Butylbenzene	D	ND
tert-Butylbenzene	D	ND
Tetrachloroethene	ND	D
Toluene	D	ND
TPH-DHS (Gasoline)	D	NA
Gasoline range organics (C6-C10)	D	NA
TPH (C22-C36)	D	NA
Trichloroethene	ND	D
Xylenes	D	ND
Total Detected	**19**	**16**

Notes:
D = Detected
ND = Not detected
NA = Not analyzed
TPH = Total petroleum hydrocarbons
TPH-DHS = TPH-Department of Health Services Method (California)

Table 9-4(a)
OT-45 Exposure Model for Current Commercial/Industrial Worker
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

No.	Exposure Pathway	C/NC	Justification
1	Dermal contact with surficial soil	NC	Impacted soils were excavated down to approximately 7 feet below ground surface, backfilled with clean fill, and paved or landscaped. 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	**Indoor inhalation of vapors from subsurface soil**	**C**	**Subsurface soil has been impacted southeast of Building 296. Therefore, this exposure pathway is complete.**
5	Outdoor inhalation of vapors from subsurface soil	C	Vapors from subsurface soil may migrate upwards through the vadose zone and into the ambient air through cracks in the pavement and/or in landscaped areas. Note this pathway is generally not the "risk driver" (due to considerable mixing and dilution in ambient air) especially when indoor inhalation is considered.
6	**Indoor inhalation of vapors from groundwater**	**C**	**Groundwater has been impacted up to cross-gradient Building 296. Therefore, this exposure pathway is complete.**
7	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 and/or in landscaped areas. Note this pathway is generally not the "risk driver" (due to considerable mixing and dilution in ambient air) especially when indoor inhalation is considered.
8	Ingestion of groundwater	NC	The facility receives water from Lake Bonito. Therefore, this exposure pathway is not complete. Also refer to Section 3.8 of the report.
9	Dermal contact with groundwater	NC	The facility receives water from Lake Bonito. Therefore, this exposure pathway is not complete.

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

Table 9-4(b)
OT-45 Exposure Model for Future Commercial/Industrial Worker
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

No.	Exposure Pathway	C/NC	Justification
1	Dermal contact with surficial soil	NC	Impacted soils were excavated down to approximately 7 feet below ground surface, backfilled with clean fill, and paved or landscaped. 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	**Indoor inhalation of vapors from subsurface soil**	**C**	**Subsurface soil has been impacted and a building may be constructed over the area where subsurface soil is impacted. Therefore, this exposure pathway is complete.**
5	Outdoor inhalation of vapors from subsurface soil	C	Vapors from subsurface soil may migrate upwards through the vadose zone and into the ambient air through cracks in the pavement and/or in landscaped areas. Note this pathway is generally not the "risk driver" (due to considerable mixing and dilution in ambient air) especially when indoor inhalation is considered.
6	**Indoor inhalation of vapors from groundwater**	**C**	**Groundwater has been impacted and a building may be constructed over the area where groundwater is impacted. Therefore, this exposure pathway is complete.**
7	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 and/or in landscaped areas. Note this pathway is generally not the "risk driver" (due to considerable mixing and dilution in ambient air) especially when indoor inhalation is considered.
8	Ingestion of groundwater	NC	The facility receives water from Lake Bonito and this is not expected to change in the future. Therefore, this exposure pathway is not complete. Also refer to Section 3.8 of the report.
9	Dermal contact with groundwater	NC	The facility receives water from Lake Bonito and this is not expected to change in the future. Therefore, this exposure pathway is not complete.

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

Table 9-4(c)
OT-45 Exposure Model for Future Construction Worker
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

No.	Exposure Pathway	C/NC	Justification
1	**Dermal contact with soil to depth of construction**	C	**Soil is impacted at the site. Therefore, this pathway is complete.**
2	**Ingestion of soil to depth of construction**	C	**Soil is impacted at the site. Therefore, this pathway is complete.**
3	**Outdoor inhalation of vapors or particulates from soil to depth of construction**	C	**Soil is impacted at the site. Therefore, this pathway is complete.**
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 pathway is not complete.
5	Indoor inhalation of vapors from groundwater	NC	Typically construction would not be expected to occur indoors over an extended period of time. Therefore, this pathway is not complete.
6	**Dermal contact with groundwater**	C	**Average depth to groundwater is approximately 5.6 ft bgs which is within the anticipated depth of construction. Therefore, this pathway is complete.**
7	**Outdoor inhalation of vapors from groundwater**	C	**Average depth to groundwater is approximately 5.6 ft bgs which is within the anticipated depth of construction. Therefore, this pathway is complete.**

Notes:
C = Complete
NC = Not complete
Pathways shown in bold will be quantitatively evaluated.
Soil to depth of construction is assumed to be 0 - 10 feet below ground surface.

Table 9-5
OT-45 Toxicity and Physical/Chemical Parameters Used for Calculating Soil Target Levels for Construction Workers
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

COPC	Slope Factor		Reference Dose		Water Solubility (S)	Henry's Law Constant (H)	Org. Carbon Adsorption Coeff. (K_{oc})	Molecular Diffusion Coefficient		Molecular Weight (MW)
	Inhalation (SF_i)	Ingestion (SF_o)	Inhalation (RfD_i)	Ingestion (RfD_o)				in air (D_a)	in water (D_w)	
	[kg-day/mg]	[kg-day/mg]	[mg/kg-day]	[mg/kg-day]	[mg/L]	[L-water/L-air]	[cm^3/g]	[cm^2/s]	[cm^2/s]	[g/g-mol]
2-Methylnaphthalene	NA	NA	NA	0.004	***25.4***	***0.0185***	***4,266***	***0.063***	***7.20E-06***	***142***
p-Isopropyltoluene (Cymene)	NA	NA	***0.086***	***0.100***	***17.1***	***0.466***	***2,291***	***0.057***	***6.73E-06***	***134***

Sources:
Value in normal font was obtained from the Integrated Risk Information System (USEPA).
Value in bold and italic was obtained from the Table for Texas Risk Reduction Program Rule (TCEQ, June 2007).
Notes:
NA = Not available

Table 9-6
OT-45 Target Levels for Soil and Groundwater
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Chemicals	Indoor Inhalation of Vapors from Subsurface Soil for Commercial/Industrial Worker (mg/kg)		Combined Pathway from Soil for Construction Worker (mg/kg)		Indoor Inhalation of Vapors from Groundwater for Commercial/Industrial Worker (mg/L)		Dermal Contact with Groundwater for Construction Worker (mg/L)		Outdoor Inhalation of Vapors from Groundwater for Construction Worker (mg/L)	
	Target Level	Source	Target Level	Source	Target Level	Source	Target Level	Source	Target Level	Source
TPH-DHS (Gasoline)	NA*		NA		NCOPC		NCOPC		NCOPC	
Gasoline range organics (C6-C10)	NA*		NA		NCOPC		NCOPC		NCOPC	
TPH (C10 - C36)	NA*		2,010**	2	NCOPC		NCOPC		NCOPC	
2-Methylnaphthalene	NOC	3	167	4	NCOPC		NCOPC		NCOPC	
bis(2-Ethylhexyl)phthalate	NCOPC		NCOPC	1	N/A		2.75	5	NOC	
1,2,4-Trimethylbenzene	1.22	3	230	1	NCOPC		NCOPC		NCOPC	
1,3,5-Trimethylbenzene	1.28	3	69.2	1	NCOPC		NCOPC		NCOPC	
2-Butanone (MEK)	1,410	3	48,700	1	NCOPC		NCOPC		NCOPC	
Acetone	96.2	3	98,500	1	NCOPC		NCOPC		NCOPC	
Benzene	0.0335	3	174	1	NCOPC		NCOPC		NCOPC	
Ethylbenzene	36.3	3	128	1	NCOPC		NCOPC		NCOPC	
Isopropylbenzene (Cumene)	13	3	389	1	NCOPC		NCOPC		NCOPC	
Naphthalene	12.4	3	262	1	NCOPC		NCOPC		NCOPC	
n-Butylbenzene	9.05	3	62.1	1	NCOPC		NCOPC		NCOPC	
n-Propylbenzene	7.07	3	62.1	1	NCOPC		NCOPC		NCOPC	
p-Isopropyltoluene (Cymene)	38	3 ***	61.7	4	NCOPC		NCOPC		NCOPC	
sec-Butylbenzene	15.4	3	62.6	1	NCOPC		NCOPC		NCOPC	
tert-Butylbenzene	8.28	3	106	1	NCOPC		NCOPC		NCOPC	
Toluene	7.98	3	252	1	NCOPC		NCOPC		NCOPC	
Xylenes	13.5	3 #	82	1	NCOPC		NCOPC		NCOPC	
1,1-Dichloroethane	NCOPC		NCOPC		20,800	3	263	5	NOC	6
1,1-Dichloroethene	NCOPC		NCOPC		48.8	3	74.4	5	1,320	6
1,2-Dichlorobenzene	NCOPC		NCOPC		NOC	3	29.2	5	NOC	6
1,2-Dichloroethane (EDC)	NCOPC		NCOPC		1.45	3	32.2	5	236	6
1,3-Dichlorobenzene	NCOPC		NCOPC		NOC	3	6.87	5	NOC	6
1,4-Dichlorobenzene	NCOPC		NCOPC		NOC	3	9.23	5	NOC	6
2-Chlorotoluene	NCOPC		NCOPC		268	3 ***	7.64	5	NOC	6
Carbon tetrachloride	NCOPC		NCOPC		0.491	3	0.556	5	16.7	6
Chlorobenzene	NCOPC		NCOPC		65.2	3	11.9	5	NOC	6
Chloroform	NCOPC		NCOPC		1.02	3	23.4	5	734	6
cis-1,2-Dichloroethene	NCOPC		NCOPC		30.2	3	23.4	5	958	6

Table 9-6
OT-45 Target Levels for Soil and Groundwater
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Chemicals	Indoor Inhalation of Vapors from Subsurface Soil for Commercial/Industrial Worker (mg/kg)		Combined Pathway from Soil for Construction Worker (mg/kg)		Indoor Inhalation of Vapors from Groundwater for Commercial/Industrial Worker (mg/L)		Dermal Contact with Groundwater for Construction Worker (mg/L)		Outdoor Inhalation of Vapors from Groundwater for Construction Worker (mg/L)	
	Target Level	Source	Target Level	Source	Target Level	Source	Target Level	Source	Target Level	Source
Dichlorodifluoromethane	NCOPC		NCOPC		6.47	3	350	5	NOC	6
Methylene chloride	NCOPC		NCOPC		55.5	3	40.6	5	NOC	6
Tetrachloroethene	NCOPC		NCOPC		2.14	3	0.462	5	NOC	6
Trichloroethene	NCOPC		NCOPC		0.151	3	0.367	5	97.8	6

Notes:

* = Target level for indoor inhalation pathway was not developed since individual compounds are evaluated.

** = SSL for TPH-DRO is averaged TPH value of all the petroleum products in the NMED TPH Screening Guidelines (NMED, 2006b). Average value for industrial direct exposure was used for combined pathways.

*** = Chemical was not listed as a constituent in the J&E model; however chemical was added and the Henry's law constant was assumed to be at 25°C.

= Target level for xylenes is sum of target levels for three isomers (m-, p-, and o-xylene).

NA = Not available

NCOPC = Not a chemical of potential concern

NOC = Not a concern since the calculated target level exceeds the water solubility.

Sources:

1: NMED, 2006a. Technical Background Document for Development of Soil Screening Levels, Revision 4.0.

2: NMED, 2006b. New Mexico Environment Department TPH Screening Guidelines.

3: Target levels developed using the J&E model (USEPA, 2004a).

4: Target levels developed using the methodology in the NMED soil screening guidance (NMED, 2006a).

5: Target levels developed using the methodology in the RAGS Volume I Part E (USEPA, 2004b).

6: Target levels developed using the methodology in the Standards Guide for RBCA Applied at Petroleum Release Sites (ASTM, 1995).

Table 9-7(a)
OT-45 Physical and Chemical Parameters Used for Calculating Indoor Inhalation Target Levels (for J&E Model)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

CAS No.	Chemical	Organic carbon partition coefficient	Diffusivity		Pure component water solubility	Henry's law constant	Henry's law constant at reference temperature	Henry's law constant reference temperature	Normal boiling point	Critical temperature	Enthalpy of vaporization at the normal boiling point	Unit risk factor	Reference concentration	Physical state at soil temperature
			in air	in water										
		K_{oc}	D_a	D_w	S	H'	H	T_R	T_B	T_C	$DH_{v,b}$	URF	RfC	
		(cm^3/g)	(cm^2/s)	(cm^2/s)	(mg/L)	(unitless)	(atm-m^3/mol)	(°C)	(°K)	(°K)	(cal/mol)	$(mg/m^3)^{-1}$	(mg/m^3)	(S, L, G)
91576	2-Methylnaphthalene	2.81E+03	5.22E-02	7.75E-06	2.46E+01	2.12E-02	5.17E-04	25	514.26	761.00	12,600	0.0E+00	7.0E-02	S
95636	1,2,4-Trimethylbenzene	1.35E+03	6.06E-02	7.92E-06	5.70E+01	2.52E-01	6.14E-03	25	442.30	649.17	9,369	0.0E+00	6.0E-03	L
108678	1,3,5-Trimethylbenzene	1.35E+03	6.02E-02	8.67E-06	2.00E+00	2.41E-01	5.87E-03	25	437.89	637.25	9,321	0.0E+00	6.0E-03	L
78933	2-Butanone (MEK)	2.30E+00	8.08E-02	9.80E-06	2.23E+05	2.29E-03	5.58E-05	25	352.50	536.78	7,481	0.0E+00	5.0E+00	L
67641	Acetone	5.75E-01	1.24E-01	1.14E-05	1.00E+06	1.59E-03	3.87E-05	25	329.20	508.10	6,955	0.0E+00	3.5E-01	L
71432	Benzene	5.89E+01	8.80E-02	9.80E-06	1.79E+03	2.27E-01	5.54E-03	25	353.24	562.16	7,342	7.8E-06	3.0E-02	L
100414	Ethylbenzene	3.63E+02	7.50E-02	7.80E-06	1.69E+02	3.22E-01	7.86E-03	25	409.34	617.20	8,501	0.0E+00	1.0E+00	L
98828	Isopropylbenzene (Cumene)	4.89E+02	6.50E-02	7.10E-06	6.13E+01	4.74E+01	1.46E-02	25	425.56	631.10	10,335	0.0E+00	4.0E-01	L
108383	m-Xylene	4.07E+02	7.00E-02	7.80E-06	1.61E+02	3.00E-01	7.32E-03	25	412.27	617.05	8,523	0.0E+00	1.0E-01	L
91203	Naphthalene	2.00E+03	5.90E-02	7.50E-06	3.10E+01	1.98E-02	4.82E-04	25	491.14	748.40	10,373	0.0E+00	3.0E-03	S
104518	n-Butylbenzene	1.11E+03	5.70E-02	8.12E-06	2.00E+00	5.38E-01	1.31E-02	25	456.46	660.50	9,290	0.0E+00	1.4E-01	L
103651	n-Propylbenzene	5.62E+02	6.01E-02	7.83E-06	6.00E+01	4.37E-01	1.07E-02	25	432.20	630.00	9,123	0.0E+00	1.4E-01	L
95476	o-Xylene	3.63E+02	8.70E-02	1.00E-05	1.78E+02	2.12E-01	5.18E-03	25	417.60	630.30	8,661	0.0E+00	1.0E-01	L
99876	p-Isopropyltoluene (Cymene) *	2.29E+03	5.72E-02	6.73E-06	1.71E+01	4.66E-01	NA	25	NA	NA	NA	0.0E+00	3.0E-01	L
135988	sec-Butylbenzene	9.66E+02	5.70E-02	8.12E-06	3.94E+00	5.68E-01	1.39E-02	25	446.50	679.00	88,730	0.0E+00	1.4E-01	L
98066	tert-Butylbenzene	7.71E+02	5.65E-02	8.02E-06	2.95E+01	4.87E-01	1.19E-02	25	442.10	1220.00	8,980	0.0E+00	1.4E-01	L
127184	Tetrachloroethene	1.55E+02	7.20E-02	8.20E-06	2.00E+02	7.53E-01	1.84E-02	25	394.40	620.20	8,288	5.9E-06	6.0E-01	L
108883	Toluene	1.82E+02	8.70E-02	8.60E-06	5.26E+02	2.72E-01	6.62E-03	25	383.78	591.79	7,930	0.0E+00	4.0E-01	L
75343	1,1-Dichloroethane	3.16E+01	7.42E-02	1.05E-05	5.06E+03	2.30E-01	5.61E-03	25	330.55	523.00	6,895	0.0E+00	5.0E-01	L
75354	1,1-Dichloroethylene	5.89E+01	9.00E-02	1.04E-05	2.25E+03	1.07E+00	2.60E-02	25	304.75	576.05	6,247	0.0E+00	2.0E-01	L
95501	1,2-Dichlorobenzene	6.17E+02	6.90E-02	7.90E-06	1.56E+02	7.77E-02	1.90E-03	25	453.57	705.00	9,700	0.0E+00	2.0E-01	L
107062	1,2-Dichloroethane (EDC)	1.74E+01	1.04E-01	9.90E-06	8.52E+03	4.00E-02	9.77E-04	25	356.65	561.00	7,643	2.6E-05	0.0E+00	L
541731	1,3-Dichlorobenzene	1.98E+03	6.92E-02	7.86E-06	1.34E+02	1.27E-01	3.09E-03	25	446.00	684.00	9,230	0.0E+00	1.1E-01	L
106467	1,4-Dichlorobenzene	6.17E+02	6.90E-02	7.90E-06	7.90E+01	9.82E-02	2.39E-03	25	447.21	684.75	9,271	0.0E+00	8.0E-01	S
95498	2-Chlorotoluene *	4.07E+02	7.10E-02	8.01E-06	1.54E+02	1.35E-01	NA	25	NA	NA	NA	0.0E+00	2.6E-01	L
56235	Carbon tetrachloride	1.74E+02	7.80E-02	8.80E-06	7.93E+02	1.24E+00	3.03E-02	25	349.90	556.60	7,127	1.5E-05	0.0E+00	L
108907	Chlorobenzene	2.19E+02	7.30E-02	8.70E-06	4.72E+02	1.51E-01	3.69E-03	25	404.87	632.40	8,410	0.0E+00	6.0E-02	L
67663	Chloroform	3.98E+01	1.04E-01	1.00E-05	7.92E+03	1.50E-01	3.66E-03	25	334.32	536.40	6,988	2.3E-05	0.0E+00	L
156592	cis-1,2-Dichloroethylene	3.55E+01	7.36E-02	1.13E-05	3.50E+03	1.67E-01	4.07E-03	25	333.65	544.00	7,192	0.0E+00	3.5E-02	L
75718	Dichlorodifluoromethane	4.57E+02	6.65E-02	9.92E-06	2.80E+02	1.40E+01	3.42E-01	25	243.20	384.95	9,421	0.0E+00	2.0E-01	L
75092	Methylene chloride	1.17E+01	1.01E-01	1.17E-05	1.30E+04	8.96E-02	2.18E-03	25	313.00	510.00	6,706	4.7E-07	3.0E+00	L
106423	p-Xylene	3.89E+02	7.69E-02	8.44E-06	1.85E+02	3.13E-01	7.64E-03	25	411.52	616.20	8,525	0.0E+00	1.0E-01	L
79016	Trichloroethene	1.66E+02	7.90E-02	9.10E-06	1.47E+03	4.21E-01	1.03E-02	25	360.36	544.20	7,505	1.1E-04	4.0E-02	L

Source: The Spreadsheet implementation of the J&E model (USEPA, 2004a)
Note: These values may differ from the values included in the Technical Background Document for Development of Soil Screening Levels Revision 4.0 (NMED, 2006a).
* - Data was obtained from the Table for Texas Risk Reduction Program Rule (TCEQ, June 2007).
NA - not avaliable

Table 9-7(b)
OT-45 Exposure Factors Used for Calculating Indoor Inhalation Target Levels (for J &E Model)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Parameter	Symbol	Unit	Values Used	Source
Averaging time for carcinogen	ATc	days	25,550	NMED, 2006a
Averaging time for non-carcinogen	ATnc	days	ED*365	NMED, 2006a
Body weight for commercial/industrial worker	BW	kg	70	NMED, 2006a
Exposure duration for commercial/industrial worker	ED	years	25	NMED, 2006a
Exposure frequency for commercial/industrial worker	EF	days/year	225	NMED, 2006a

Source:
NMED, 2006a. Technical Background Document for Development of Soil Screening Levels, Revision 4.0.

Table 9-7(c)
OT-45 Media Specific Parameters Used for Calculating Indoor Inhalation Target Levels (for J & E Model)
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Parameter	Symbol	Unit	Value Used	Source
Source Parameters				
Average soil temperature	T_s	°C	17	Site-specific
Depth below grade to top of contamination	L_T	cm	152.4	Site-specific
Depth below grade to water table	L_{WT}	cm	169.8	Site-specific
Soil dry bulk density	ρ_b	g/cm^3	1.63	USEPA, 2004a
Soil total porosity	n	unitless	0.38	USEPA, 2004a
Soil water-filled porosity	θ_w	cm^3/cm^3	0.146	USEPA, 2004a
Soil organic carbon fraction	f_{oc}	unitless	0.00395	Site-specific
Building Parameters				
Depth below grade to bottom of enclosed space floor	L_F	cm	15	USEPA, 2004a
Enclosed space floor thickness	L_{crack}	cm	10	USEPA, 2004a
Enclosed space floor length	L_B	cm	1,000	USEPA, 2004a
Enclosed space floor width	W_B	cm	1,000	USEPA, 2004a
Enclosed space height	H_B	cm	305	Professional Judgment
Floor-wall seam crack width	w	cm	0.1	USEPA, 2004a
Indoor air exchange rate	ER	1/hr	0.83	ASTM, 2005
Average vapor flow rate into building	Q_{soil}	L/m	5	USEPA, 2004a

Sources:

ASTM, 1995. Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites.
USEPA, 2004a. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings.
NMED, 2006a. Technical Background Document for Development of Soil Screening Levels, Revision 4.0.

Table 9-8(a)
OT-45 Toxicity Values and Parameters Used for Calculating Target Levels for Dermal Contact with Groundwater
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

COPC	Dermal Slope Factor (SFd)	Dermal Reference Dose (RfDd)	Dermal Permeability Constant (Kp)	Relative Contribution of Permeability Coefficient (B)	Lag Time (τ_{event})	Time to Reach Steady-State (t*)	Fraction Absorbed (FA)
	[kg-day/mg]	[mg/kg-day]	[cm/hr]	[--]	[hr]	[hr]	[--]
bis(2-Ethylhexyl)phthalate	1.40E-02	2.00E-02	**2.50E-02**	**1.90E-01**	**1.66E+01**	**3.99E+01**	**0.800**
1,1-Dichloroethane	*5.71E-03*	*1.00E-01*	**6.70E-03**	**2.58E-02**	**3.82E-01**	**9.18E-01**	**1.000**
1,1-Dichloroethene	NA	5.00E-02	**1.20E-02**	**4.41E-02**	**3.72E-01**	**8.93E-01**	**1.000**
1,2-Dichlorobenzene	NA	9.00E-02	**4.10E-02**	**1.93E-01**	**7.11E-01**	**1.71E+00**	**1.000**
1,2-Dichloroethane (EDC)	9.10E-02	*2.00E-02*	**4.20E-03**	**1.61E-02**	**3.82E-01**	**9.18E-01**	**1.000**
1,3-Dichlorobenzene	NA	*3.00E-02*	**5.80E-02**	**2.70E-01**	**7.11E-01**	**1.71E+00**	**1.000**
1,4-Dichlorobenzene	*2.40E-02*	*3.00E-02*	**4.20E-02**	**1.96E-01**	**7.11E-01**	**1.71E+00**	**1.000**
2-Chlorotoluene	NA	2.00E-02	***3.99E-02***	***1.73E-01***	***5.41E-01***	***1.30E+00***	***1.000***
Carbon tetrachloride	1.30E-01	7.00E-04	**1.60E-02**	**7.78E-02**	**7.76E-01**	**1.86E+00**	**1.000**
Chlorobenzene	NA	2.00E-02	**2.80E-02**	**1.15E-01**	**4.56E-01**	**1.09E+00**	**1.000**
Chloroform	NA	1.00E-02	***6.80E-03***	***2.87E-02***	***4.98E-01***	***1.19E+00***	***1.000***
cis-1,2-Dichloroethene	NA	*1.00E-02*	**7.67E-03**	**2.90E-02**	**3.67E-01**	**8.81E-01**	**1.000**
Dichlorodifluoromethane	NA	2.00E-01	**3.20E-03**	**1.79E-02**	**1.57E+00**	**3.72E+00**	**1.000**
Methylene chloride	6.00E-02	7.50E-03	**3.50E-03**	**1.26E-02**	**3.19E-01**	**7.65E-01**	**1.000**
Tetrachloroethene	*5.40E-01*	1.00E-02	**3.30E-02**	**1.66E-01**	**9.06E-01**	**2.18E+00**	**1.000**
Trichloroethene	*4.00E-01*	*3.00E-04*	**1.20E-02**	**5.13E-02**	**5.81E-01**	**1.39E+00**	**1.000**

Sources:

Value in normal font was obtained from the Integrated Risk Information System (USEPA).

Value in italic font was obtained from the Preliminary Remediation Goal Table (USEPA Region 9, October 2004).

Value in italic font and underlined was obtained from the Table for Texas Risk Reduction Program Rule (TCEQ, June 2007).

Value in bold was obtained from the RAGS Volume I, Part E (USEPA, 2004b).

Value in bold and italic was estimated as per the RAGS Volume I, Part E (USEPA, 2004b).

Notes:

NA = Not available

Table 9-8(b)
OT-45 Exposure Factors Used for Calculating Target Levels for Dermal Contact with Groundwater
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Parameter	Symbol	Unit	Values Used	Source
Averaging time for carcinogen	ATc	days	25,550	NMED, 2006a
Averaging time for non-carcinogen	ATnc	days	ED*365	NMED, 2006a
Body weight for construction worker	BW	kg	70	NMED, 2006a
Exposure duration for construction worker	ED	years	1	NMED, 2006a
Exposure frequency for construction worker	EF	days/year	250	NMED, 2006a
Skin surface area for dermal contact with water for construction worker	SA_{gw}	cm^2/day	3,300	USEPA, 2004b
Event frequency for dermal contact with water for construction worker	EV_{gw}	event/day	1	Professional judgment
Event duration for dermal contact with water for construction worker	t_{event}	hr/event	1	Professional judgment

Sources:

NMED, 2006a. Technical Background Document for Development of Soil Screening Levels, Revision 4.0.

USEPA, 2004b. Risk Assessment Guidance for Superfund Volume I, Part E Supplemental Guidance for Dermal Risk Assessment.

Table 9-9(a)
OT-45 Toxicity and Physical/Chemical Parameters Used for Calculating Target Levels for Outdoor Inhalation of Vapors from Groundwater
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

COPC	Inhalation Slope Factor (SFi)	Inhalation Reference Dose (RfDi)	Water Solubility (S)	Henry's Law Constant (H)	Org. Carbon Adsorption Coeff. (K_{oc})	Molecular Diffusion Coefficient		Molecular Weight (MW)
						in air (D_a)	in water (D_w)	
	[kg-day/mg]	[mg/kg-day]	[mg/L]	[L-water/L-air]	[cm^3/g]	[cm^2/s]	[cm^2/s]	[g/g-mol]
1,1-Dichloroethane	NA	2.00E-01	5.06E+03	2.30E-01	5.30E+01	7.42E-02	1.05E-05	9.90E+01
1,1-Dichloroethene	NA	5.70E-02	2.30E+03	1.10E+00	6.50E+01	9.00E-02	1.00E-05	9.70E+01
1,2-Dichlorobenzene	NA	6.90E-03	1.56E+02	7.79E-02	3.80E+01	6.90E-02	7.90E-06	1.47E+02
1,2-Dichloroethane	9.10E-02	1.40E-03	8.52E+03	4.01E-02	3.80E+01	1.04E-01	9.90E-06	9.90E+01
1,3-Dichlorobenzene	NA	3.00E-03	1.56E+02	7.80E-02	3.80E+01	6.90E-02	7.90E-06	1.47E+02
1,4-Dichlorobenzene	2.20E-02	2.29E-01	7.38E+01	9.96E-02	6.16E+02	6.90E-02	7.90E-06	1.47E+02
2-Chlorotoluene	NA	2.00E-02	4.70E+01	1.40E-01	1.60E+02	7.20E-02	8.70E-06	1.73E+02
Carbon tetrachloride	5.25E-02	7.00E-04	7.93E+02	1.25E+00	1.74E+02	7.80E-02	8.80E-06	1.54E+02
Chlorobenzene	NA	1.70E-02	4.72E+02	1.50E-01	2.19E+02	7.30E-02	8.70E-06	1.13E+02
Chloroform	8.05E-02	1.35E-02	7.92E+03	1.50E-01	3.98E+01	1.04E-01	1.00E-05	1.20E+02
cis-1,2-Dichloroethene	NA	1.00E-02	3.50E+03	1.67E-01	3.55E+01	7.36E-02	1.13E-05	9.70E+01
Dichlorodifluoromethane	NA	5.71E-02	2.80E+02	4.10E+00	5.80E+01	8.00E-02	1.05E-05	1.20E+02
Methylene chloride	1.65E-03	8.60E-01	1.30E+04	9.00E-02	1.20E+01	1.00E-01	1.20E-05	8.50E+01
Tetrachloroethene	2.10E-02	1.00E-02	2.00E+02	7.54E-01	2.70E+02	7.20E-02	8.20E-06	1.70E+02
Trichloroethene	4.00E-01	1.00E-02	1.10E+03	4.22E-01	9.40E+01	7.90E-02	9.10E-06	1.31E+02

Sources:
Value was obtained from the Technical Background Document for Development of Soil Screening Levels, Revision 4.0 (NMED, 2006a).
Notes:
NA = Not available

Table 9-9(b)
OT-45 Exposure Factors Used for Calculating Target Levels for Outdoor Inhalation of Vapors from Groundwater
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Parameter	Symbol	Unit	Values Used	Source
Averaging time for carcinogen	ATc	days	25,550	NMED, 2006a
Averaging time for non-carcinogen	ATnc	days	ED*365	NMED, 2006a
Body weight for construction worker	BW	kg	70	NMED, 2006a
Exposure duration for construction worker	ED	years	1	NMED, 2006a
Exposure frequency for construction worker	EF	days/year	250	NMED, 2006a
Inhalation rate for construction worker	IRA_{CW}	m^3/day	20	NMED, 2006a

Source:
NMED, 2006a. Technical Background Document for Development of Soil Screening Levels, Revision 4.0

Table 9-9(c)
OT-45 Fate and Transport Parameters Used for Calculating Outdoor Inhalation of Vapors from Groundwater
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Parameter	Symbol	Unit	Value Used	Source
Mean annual wind speed	U_m	m/s	4.02	NMED, 2006a
Breathing zone height	δ_a	cm	200	ASTM, 1995
Depth to groundwater	L_{GW}	cm	169.8	Site-specific
Dimension of source area parallel to wind direction*	W_{ga}	cm	6,705.6	Site-specific

Notes:

NMED, 2006a. Technical Background Document for Development of Soil Screening Levels, Revision 4.0.

ASTM, 1995. Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites.

* = Since this is not a sensitive parameter and wind direction is variable, conservatively the longer area dimension of 220 ft (6,705.6 cm) was used.

Table 9-10(a)
OT-45 Comparison of Maximum Detected Soil Concentrations with Target Levels
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

COPCs	Soil Target Levels		Maximum Detected Soil Concentration (mg/kg)	Maximum Detected Exceed Any Target Levels?
	Indoor Inhalation of Vapors from Subsurface Soil for Commercial/Industrial Worker (mg/kg)	Combined Pathway from Soil for Construction Worker (mg/kg)		
TPH-DHS (Gasoline)	NA	NA	435	NA
Gasoline range organics (C6-C10)	NA	NA	287	NA
TPH (C10 - C36)	NA	2,010	124	NE
2-Methylnaphthalene	NOC	167	0.956	NE
1,2,4-Trimethylbenzene	1.22	230	3.38	**E**
1,3,5-Trimethylbenzene	1.28	69.2	0.677	NE
2-Butanone	1,410	48,700	0.0032	NE
Acetone	96.2	98,500	0.014	NE
Benzene	0.0335	174	0.25	**E**
Ethylbenzene	36.3	128	10.3	NE
Isopropylbenzene (Cumene)	13	389	2.25	NE
Naphthalene	12.4	262	1.175	NE
n-Butylbenzene	9.05	62.1	0.746	NE
n-Propylbenzene	7.07	62.1	3.24	NE
p-Isopropyltoluene (Cymene)	38	61.7	0.628	NE
sec-Butylbenzene	15.4	62.6	1.49	NE
tert-Butylbenzene	8.28	106	0.016	NE
Toluene	7.98	252	1.18	NE
Xylenes	13.5	82	2.64	NE

Notes:
NOC = Not of concern
E = Exceed
NE = Not exceed
NA = Not available
mg/kg = Milligrams per kilogram

Table 9-10(b)
OT-45 Comparison of Maximum Detected Groundwater Concentrations with Target Levels
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

COPCs	Groundwater Target Levels			Maximum Detected Groundwater Concentration (mg/L)	Maximum Detected Exceed Any Target Levels?
	Indoor Inhalation of Vapors from Groundwater for Commercial/Industrial Worker (mg/L)	Dermal Contact with Groundwater for Construction Worker (mg/L)	Outdoor Inhalation of Vapors from Groundwater for Construction Worker (mg/L)		
bis(2-Ethylhexyl)phthalate	N/A	2.75	NOC	0.00405	NE
1,1-Dichloroethane	20,800	263	NOC	0.0025	NE
1,1-Dichloroethene	48.8	74.4	1,320	0.0028	NE
1,2-Dichlorobenzene	NOC	29.2	NOC	0.000685	NE
1,2-Dichloroethane	1.45	32.2	236	0.000775	NE
1,3-Dichlorobenzene	NOC	6.87	NOC	0.000385	NE
1,4-Dichlorobenzene	NOC	9.23	NOC	0.000375	NE
2-Chlorotoluene	268	7.64	NOC	0.00041	NE
Carbon tetrachloride	0.491	0.556	16.7	0.0028	NE
Chlorobenzene	65.2	11.9	NOC	0.00077	NE
Chloroform	1.02	23.4	734	0.00455	NE
cis-1,2-Dichloroethene	30.2	23.4	958	0.00046	NE
Dichlorodifluoromethane	6.47	350	NOC	0.00058	NE
Methylene chloride	55.5	40.6	NOC	0.00049	NE
Tetrachloroethene	2.14	0.462	NOC	0.002	NE
Trichloroethene	0.151	0.367	97.8	0.0065	NE

Notes:
NE = Not exceed
N/A = Not applicable since chemical is not volatile
mg/L = Milligrams per liter
NOC = Not of concern

Table 9-11(a)
OT-45 Calculation of Average Soil Concentrations
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-DP01-6	OT45-SW1	OT45-SW1a	OT45-SW2	OT45-SW2a	OT45-SW3	OT45-SW4	OT45-SW4a	OT45-SW5	OT45-SW5a	OT45-SW6
Date Sampled	6/4/2007	2/8/2008	2/12/2008	2/8/2008	2/12/2008	2/8/2008	2/8/2008	2/12/2008	2/8/2008	2/12/2008	2/8/2008
Sample Depth (ft bgs)	6	5	5	5	5	5	5	5	5	5	5
1,2,4-Trimethylbenzene	< 0.0061	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005	< 0.005	0.724
Benzene	0.0025	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.025	< 0.005	< 0.005	0.129

Notes:
All concentrations are in mg/kg
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
J = Estimated result
SW = Sidewall Sample
Half the detection limit was used for non-detects

Table 9-11(a)
OT-45 Calculation of Average Soil Concentrations
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW6a	OT45-SW7	OT45-SW7a	OT45-SW8	OT45-SW9	OT45-10A-OE-1	OT45-10A-OE-2	OT45-10A-OE-3	OT45-10A-OE-4	OT45-10A-OE-5	OT45-10A-OE-6
Date Sampled	2/12/2008	2/8/2008	2/12/2008	2/8/2008	2/8/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/25/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5	5	5
1,2,4-Trimethylbenzene	< 0.025	< 0.005	0.0014	< 0.005	< 0.005	< 0.005	< 0.005	0.0024	< 0.005	< 0.005	< 0.005
Benzene	< 0.025	< 0.005	< 0.005	0.002	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.0015	< 0.005

Notes:
All concentrations are in mg/kg
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
J = Estimated result
SW = Sidewall Sample
Half the detection limit was used for non-detects

Table 9-11(a)
OT-45 Calculation of Average Soil Concentrations
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-10A-OE-7	OT45-10A-OE-8	OT45-10A-OE-9	OT45-10A-OE-10	OT-45-SW11a	OT45-SW12	OT-45-SW13	OT-45-SW14	OT-45-SW15	OT-45-SW16	OT45-SW17
Date Sampled	2/25/2008	2/25/2008	2/25/2008	2/25/2008	2/12/2008	2/8/2008	2/12/2008	2/12/2008	2/12/2008	2/12/2008	2/13/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5	5	5
1,2,4-Trimethylbenzene	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Benzene	< 0.005	< 0.25	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

Notes:
All concentrations are in mg/kg
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
J = Estimated result
SW = Sidewall Sample
Half the detection limit was used for non-detects

Table 9-11(a)
OT-45 Calculation of Average Soil Concentrations
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW18	OT45-SW19	OT45-SW20	OT45-SW21	OT45-SW22	OT45-SW23	OT45-SW24	OT45-SW25	OT45-SW26	OT45-SW27	OT45-SW28
Date Sampled	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/13/2008
Sample Depth (ft bgs)	5	5	5	5	5	5	5	5	5	5	5
1,2,4-Trimethylbenzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.38	0.25	0.0011	< 0.005	< 0.005
Benzene	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.25	0.076	0.002	< 0.005	< 0.005

Notes:
All concentrations are in mg/kg
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
J = Estimated result
SW = Sidewall Sample
Half the detection limit was used for non-detects

Table 9-11(a)
OT-45 Calculation of Average Soil Concentrations
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

Sample ID	OT45-SW29	OT45-SW30	OT45-SW31	OT45-SW32	OT45-Bottom 1	OT45-Bottom 2	OT45-Bottom 3	Average Soil Concentration (mg/kg)
Date Sampled	2/13/2008	2/13/2008	2/13/2008	2/13/2008	2/8/2008	2/8/2008	2/13/2008	
Sample Depth (ft bgs)	5	5	5	5	7	7	7	
1,2,4-Trimethylbenzene	< 0.25	0.146	0.041	< 0.005	0.009	< 0.005	0.0045	**0.097**
Benzene	< 0.25	0.012	< 0.025	< 0.005	0.0035	< 0.005	< 0.005	**0.017**

Notes:
All concentrations are in mg/kg
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
J = Estimated result
SW = Sidewall Sample
Half the detection limit was used for non-detects

Table 9-11(b)
OT-45 Comparison of Average Detected Soil Concentrations with Target Levels
Old AGE Refueling Station
Holloman Air Force Base, New Mexico

COPCs	Soil Target Levels		Average Soil Concentration (mg/kg)	Average Concentration Exceed Any Target Levels?
	Indoor Inhalation of Vapors from Subsurface Soil for Commercial/Industrial Worker (mg/kg)	Combined Pathway from Soil for Construction Worker (mg/kg)		
1,2,4-Trimethylbenzene	1.22	230	0.097	NE
Benzene	0.0335	174	0.017	NE

Notes:
NE = Not exceed
mg/kg = Milligrams per kilogram

APPENDIX A

HISTORICAL DATA FROM PREVIOUS INVESTIGATIONS

Appendix A-1-1

Letter Report Regarding *Evaluation of the P.O.L. Tetraethyl Lead Disposal Site*

Andreoli, USAF, BSC, August 1980

File: 17B-5
R.L.

203

DEPARTMENT OF THE AIR FORCE
USAF HOSPITAL HOLLOMAN (TAC)
HOLLOMAN AIR FORCE BASE, NEW MEXICO 88330

REPLY TO ATTN OF: SGPM (Capt Sprester) 26 August 1980

SUBJECT: Evaluation of P.O.L. Tetraethyl Lead Disposal Site

TRP Sub No 3

TO: SGP
SGD
TTH/CCE
TTH/CC
49 SUP/CC
IN TURN

1. Capt Forrest Sprester and Lt Robert Andreoli, Bioenvironmental Engineers, collected six soil samples from the Holloman AFB Land Disposal site for POL tank sludges on 19 Jan 80. The purpose of the sampling was to determine the concentration of lead in the soil and compare the results to Environmental parameters established by the U.S. Environmental Protection Agency.

2. BACKGROUND. The land disposal site is located outside the east perimeter fence of the POL storage facilities. It has been utilized in the past to dispose of the sludge from fuel storage tanks (AVGAS, JP-4, Mo-Gas) after cleaning. The exact size of the disposal area has not been determined or the quantity of sludge disposed of. The white soil surrounding the site was highly gypsiferous having a pH of 8-10.

3. PROCEDURE.

a. The soil samples were collected from the surface, two foot, and three foot depths. Four of the samples were obtained from the center of the disposal site and two outside of the marked area. A plan view of the sample locations is shown on Sketch 1.

b. A ship auger (one inch diameter) was used to obtain the soil at depths of two and three feet.

c. The soil was placed in 150 milliliter glass containers and shipped to the USAF Occupational Environmental Health Laboratory, Brooks AFB, TX. for analysis for lead.

d. A visual inspection of the area was made and a photograph of the disposal site was taken.

e. A soil sample was obtained at a distance of 30 feet from the disposal site. This sample was supposed to be used to establish a baseline for lead in the soil for comparison. However, the lead content was not indicative of normal soils.

SIGN

4. VISUAL FINDINGS. The contents of the pit at the disposal site consisted of well-weathered rags, some iron fragments, and dark red, stained soil. The soil was easily penetrated using the auger to a depth of three feet with the stained soil found throughout the three foot depth. It is assumed that the contamination extends beyond the three foot soil horizon. The soil immediately beyond the edge of the stained soil was penetrated only with a good deal of effort and was found to be moist.

5. CHEMICAL ANALYSES. The findings of the chemical analysis are listed on Table 1.

Table 1

Chemical Analyses for Lead of Soil Samples for Fuel Sludge Land Disposal Site, Holloman AFB, New Mexico

Sample No.	Sample Depth	Lead Content Parts per Million by Weight	Lead Content Parts per Million by Weight Typical*	Range*
1	Surface	3750		
2	Three feet	1500		
3	Two feet	152		
4	Surface	1500	10	2-200
5	Two feet	172		
6	Surface	550		
7	Three feet	157		
8	Surface	372		
Mean Value		1019		

*The Environmental Research Laboratory, Solid and Hazardous Waste Research Division, Cincinnati, Ohio

The sample locations are shown in Profile on Sketch 2.

6. DISCUSSION OF RESULTS.

a. The common lead content of the land disposal site and its surroundings exceed any natural lead concentrations reported in the literature. Soil studies for Four Corners, New Mexico indicated a maximum of 5.8 parts per million background concentration. Statistical studies in field geochemistry have reported

mean values up to 28 parts per million. As can be seen from Table 1, the mean value for the eight samples was 1019 parts per million.

b. Lead is a highly toxic element. However, lead poisoning from natural sources such as plants is very unlikely. The most hazardous and most difficult to detect without sensitive chemical analysis equipment is through consuming water contaminated with lead.

c. The disposal site does not comply with the New Mexico regulation for disposal for tetraethyl lead. Under the Resource Conservation and Recovery Act (RCRA) Subtitle C, the disposal site is considered a toxic waste site that does not meet the minimum criteria required to protect the environment. An exemption could have been applied for prior to 1979 for the site but under RCRA the exemption would have become null and void. According to Mr. Raymond Cisneros, New Mexico Environmental Improvement Division, the site must be properly closed as soon as possible to eliminate further surface contamination.

7. CONCLUSION AND RECOMMENDATION.

a. The lead content of the soils at the tetraethyl lead disposal site was far above what is normally found in nature. Due to site location it does not pose an immediate health hazard but does clearly violate Federal and State Environmental Regulations. The lead contaminated soil should be excavated and placed in 55 gallon drums. The estimated quantity of highly contaminated soil will likely fill three or four drums. The filled drums should be clearly marked as to their content and disposed of through a licensed toxic waste disposal contractor. The surrounding soil that has been contaminated by lead carried by runoff waters, an area estimated to be 50 feet in diameter, should be scrapped down to a depth of at least six inches and the soil trucked to the base sanitary landfill for disposal. The area that has been excavated and scrapped should again be sampled for lead content. All records of closure must be maintained for a minimum of five years. The excavated area should then be backfilled with soil to its original contour.

b. The extent of the migration of the lead has been kept to a minimum due to the small amount of rainfall in the Holloman area and the very low permeability of the soil. The only way to assure that the contamination will not continue to spread is to dispose of the material as stated above. The method described will comply with Federal and State Regulations. Once the material has been removed, the signs must be removed and the Base Master Plan must be modified to reflect the action taken to eliminate the disposal area.

c. Prior to removal of the lead, notify the Base Bioenvironmental Engineer and Environmental Coordinator of the actions intended. The Bioenvironmental Engineer will provide information on protective equipment required by the workers who will be working directly with the contaminated soils. The Environmental Coordinator can provide assistance in disposal of the containers through a contractor.

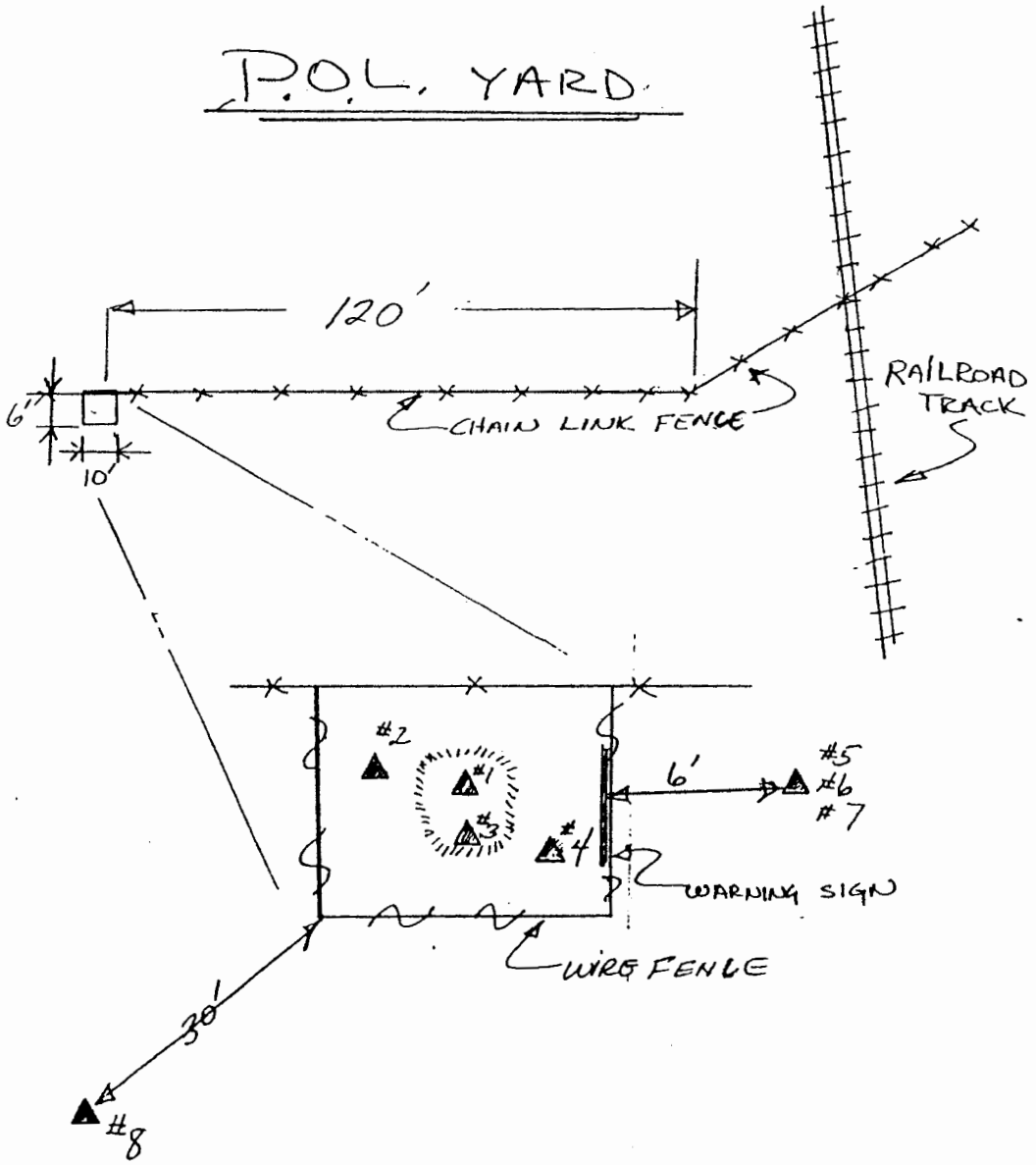
8. Should you have any questions pertaining to the above, please call Environmental Health at Extension 3303.

ROBERT J. ANDREOLI, 2Lt, USAF, BSC
Chief, Environmental Services

Cy to: 49CSG/CC
49CSG/JA
TTH/SEG
49CSG/DEEV

2 Atch
1. Sketch 1 - Planview of Sample Locations
2. Sketch 2 - Profile View of Sample Locations

USAF HOSPITAL/SGPM
HOLLOMAN AFB, NEW MEXICO

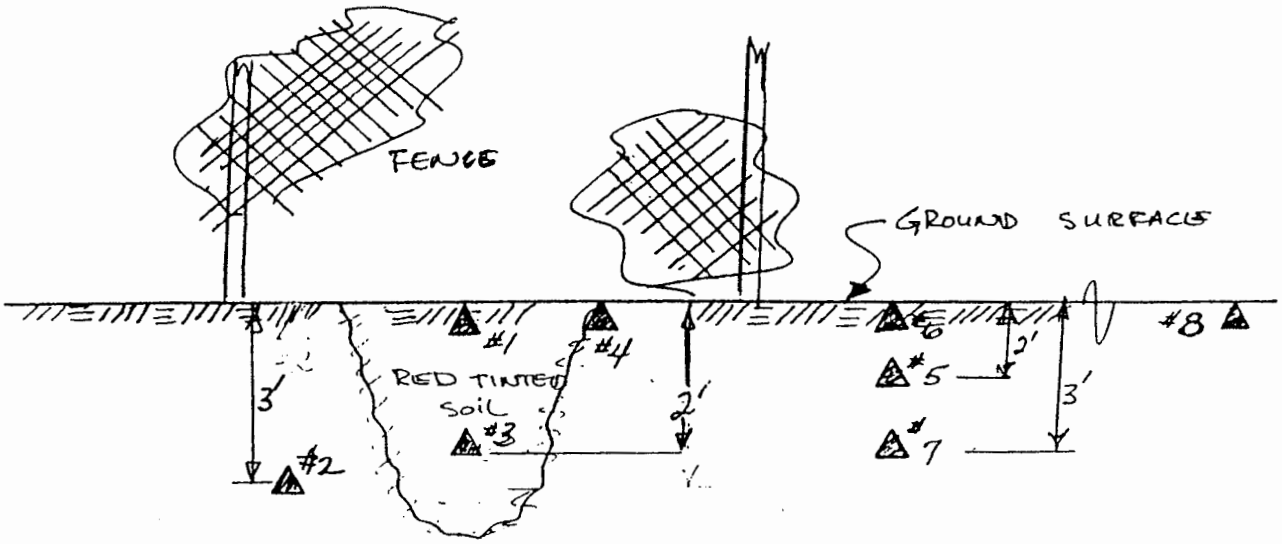


SKETCH No. 1

Plan View of Sample Locations of
the Land Disposal Site

Scale: None
Drwn by: Capt Sprester

USAF HOSPITAL/SGPM
HOLLOMAN AFB, NEW MEXICO



SKETCH No. 2

Profile View of Sample Locations of the Land Disposal Site

Scale: None
Drwn by: Capt Sprester
January 1980

Appendix A-1-2

Portions of the *Draft Final Remedial Investigation (RI) Report, Investigation, Study and Recommendation for 29 Waste Sites, Holloman Air Force Base, NM*

Radian Corporation, June 1992

RADIAN
CORPORATION

DCN 92-269-004-16-07
RCN 269-004-16-06

(Mailing Address)
P.O. Box 201088
Austin, TX 78720-1088
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REMEDIAL INVESTIGATION (RI) REPORT

INVESTIGATION, STUDY AND RECOMMENDATION FOR 29 WASTE SITES HOLLOMAN AIR FORCE BASE, NM

Volume I

DRAFT FINAL

Prepared for:

49 SG/CEV
Holloman Air Force Base, NM

Prepared by:

Radian Corporation
8501 North MoPac Blvd.
P.O. Box 201088
Austin, Texas 78720-1088

Under Contract No. DACW45-89-D-0515 with:

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

June 1992

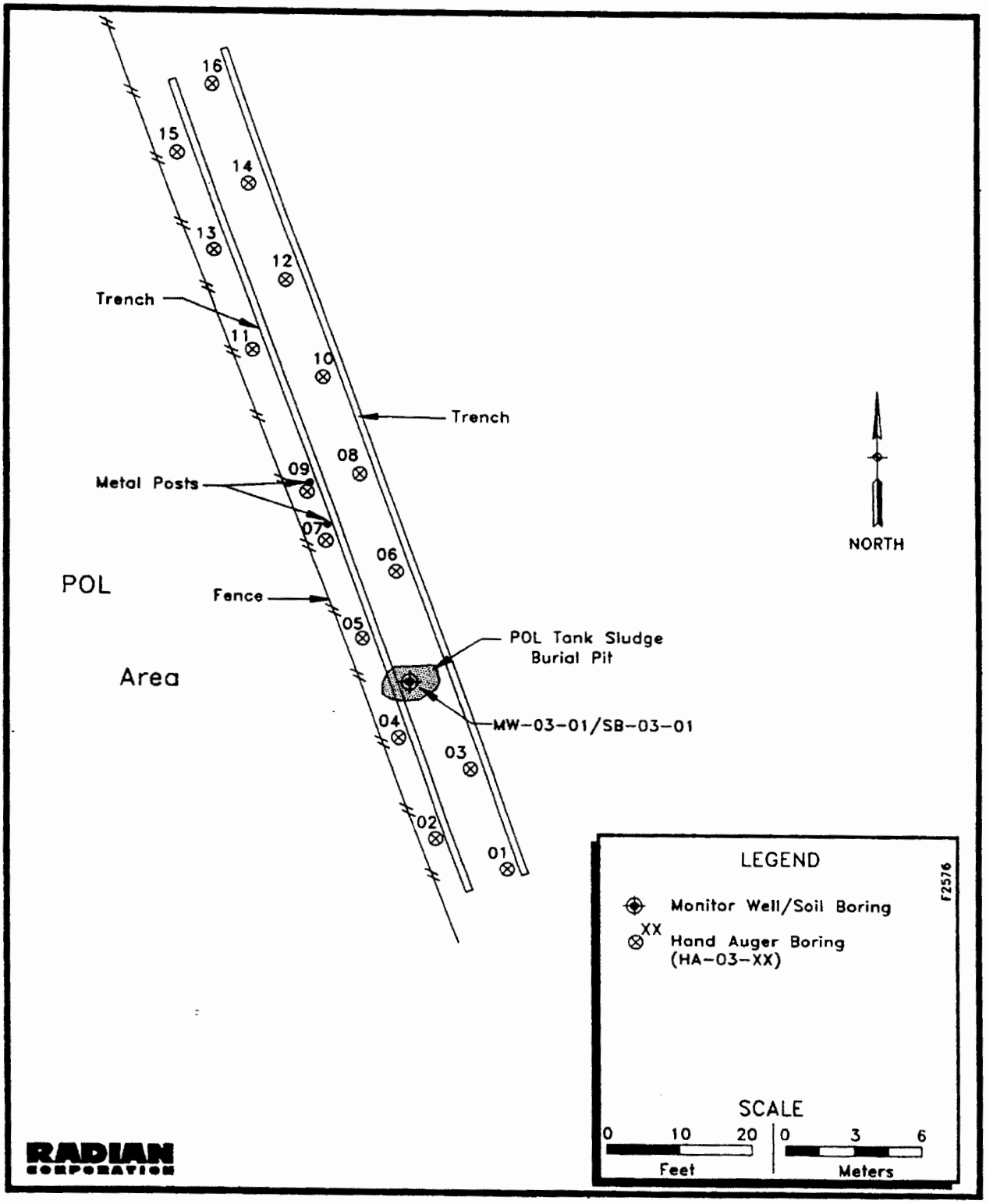


Figure 4-5. Trench, Hand Auger Boring, Soil Boring, and Monitor Well Locations for Site 3

Table 4-15

Lead Concentrations in Surface Sampling Adjacent to POL Tank Sludge Burial Pit, Site 3

			SW7421 - Lead (mg/kg)	
Location	Sample ID	Depth	Result	(DL)
HA-03-01	91JULH003-003	0 - 2 ft	4.3	(0.26)
HA-03-02	91JULH003-004	0 - 2 ft	4.8	(0.27)
HA-03-03	91JULH003-005	0 - 2 ft	5.2	(0.25)
HA-03-04	91JULH003-006	0 - 2 ft	3.2	(0.26)
HA-03-05	91JULH003-007	0 - 2 ft	2.4	(0.28)
HA-03-06	91JULH003-008	0 - 2 ft	3.9	(0.25)
HA-03-07	91JULH003-009	0 - 2 ft	2.9	(0.28)
HA-03-08	91JULH003-010	0 - 2 ft	2.3	(0.30)
HA-03-09	91JULH003-011	0 - 2 ft	38	(2.8)
HA-03-10	91JULH003-012	0 - 2 ft	7.8	(0.56)
HA-03-11	91JULH003-013	0 - 1.5 ft	5.5	(0.27)
HA-03-12	91JULH003-014	0 - 2 ft	2.8	(0.29)
HA-03-13	91JULH003-015	0 - 1.5 ft	5.4	(0.28)
HA-03-14	91JULH003-016	0 - 1.7 ft	1.7	(0.31)
HA-03-15	91JULH003-017	0 - 2 ft	3.3	(0.31)
HA-03-16	91JULH003-018	0 - 2 ft	2.4	(0.29)

Table 4-16

Concentrations of Inorganic and Organic Analytes in Site 3 Soil Samples

Location:	SB-03-01			
Sample ID: Depth:	91JULH003-001 0 - 6 ft		91JULH003-002 6 - 9 ft	
Analyses	Result	(DL)	Result	(DL)
Inorganic Results				
SW6010 - Metals (mg/kg)				
Beryllium	ND	(0.40)	0.71 @	(0.39)
Chromium	5.9 @	(2.0)	13	(1.9)
Copper	5.0 @	(4.0)	4.6 @	(3.9)
Nickel	7.2 @	(4.0)	14 @	(3.9)
Zinc	19 @	(4.0)	26	(3.9)
SW7060 - Arsenic (mg/kg)	1.9 @	(0.76)	4.3 @	(1.4)
SW7421 - Lead (mg/kg)	50	(2.8)	48	(2.7)
Organic Results				
EPA 418.1 - TRPH (mg/kg)	1160 @	(296)	2020	(248)
SW8240 - Volatile Organics (ug/kg)				
Ethyl benzene	1600	(120)	64 J	(120)
Methylene chloride	180 B@	(120)	170 B@	(120)
Toluene	100 JB	(120)	7.0 JB	(120)
Xylenes	3300	(120)	260 @	(120)

NOTE: Table presents only constituents detected in soil at this site.
ND = Not Detected, at the reported detection limit.
@ = Measured result is less than five times the detection limit.
J = Detected below the detection limit.
B = Analyte detected in laboratory blank analysis, no blank subtraction performed.

Table 4-17

Concentrations of Inorganic and Organic Analytes in Site 3 Groundwater Samples

Location: Sample ID:	MW-03-01 03-01-01	
Analyte	Result	(DL)
Inorganic Results		
EPA 160.1 - Total Dissolved Solids (mg/L)	14000	(10)
EPA 300.0 - Chloride (mg/L)	2600	(26)
EPA 300.0 - Sulfate (mg/L)	5500	(5.0)
EPA 340.2 - Fluoride (mg/L)	2.5	(0.10)
EPA 365.2 - Total Phosphorus (mg/L)	0.56	(0.020)
SW6010 - Metals (mg/L)		
Antimony	0.13 @	(0.10)
Beryllium	0.0027 @	(0.0020)
Chromium	0.019 @	(0.010)
Copper	0.056 @	(0.020)
Nickel	0.037 @	(0.020)
Zinc	0.088 @	(0.020)
SW7421 - Lead (mg/L)	0.019 Z@	(0.0060)
SW7740 - Selenium (mg/L)	0.010 @	(0.0050)
Organic Results		
SW8240 - Volatile Organics (ug/L)		
1,2-Dichloroethane	4.8 J	(5.0)
2-Hexanone	66 @	(50)
4-Methyl-2-pentanone(MIBK)	220 @	(50)
Benzene	4500 D	(250)
Chlorobenzene	5.7 @	(5.0)
Ethyl benzene	1600 D	(250)
Methyl ethyl ketone	2.0 J	(100)
Methylene chloride	1.3 JB	(5.0)
Toluene	6.2 @	(5.0)
Xylenes	700 D@	(250)
SW8240 - Volatile Organics, TIC List (ug/L)		
Methylcyclohexane	120	()

NOTE: Table presents only constituents detected in groundwater at this site.
@ = Measured result is less than five times the detection limit; Z = SW6010, SW7421–Analyte detected in method blank; D = Secondary dilution required for this analyte.; J = Detected below the detection limit; B = Analyte detected in laboratory blank analysis, no blank subtraction performed; TIC = Tentatively identified compound.

Table 4-18

Soil and Groundwater Analytes Detected Above Risk-Based Action Levels at Site 3

Analyte	Location ID	Result		Action Level
Soil Results (mg/kg)				
Beryllium	SB-03-01	0.71	@	0.2
Lead	HA-03-09	38		32
Lead	SB-03-01	50		32
Lead	SB-03-01	48		32
Groundwater Results (mg/L)				
1,2-Dichloroethane	MW-03-01	0.0048	J	0.0004
Antimony	MW-03-01	0.13	@	0.01
Benzene	MW-03-01	4.5	D	0.001
Beryllium	MW-03-01	0.0027	@	0.000008
Ethyl benzene	MW-03-01	1.6	D	0.7
Fluoride	MW-03-01	2.5		2
Lead	MW-03-01	0.019	Z@	
Xylenes	MW-03-01	0.7	D@	0.62

Note: Result units were changed to match action level units for this table.

@ = Measured result is less than five times the detection limit.
J = Detected below the detection limit.
D = Secondary dilution required for this analyte.
Z = SW6010, SW7421—Analytes detected in method blank.

DRILLING LOG

HOLE NO. MW-03-01

F2307

1. COMPANY NAME	RADIAN CORPORATION
2. DRILLING SUBCONTRACTOR	SOUTHWEST ENG INC
SHEET 1 OF 2 SHEETS	
3. PROJECT	HOLLOMAN AFB RI/FS FOR 29 SITES
4. LOCATION	03
5. NAME OF DRILLER	ALEX SANCHEZ
6. MANUFACTURER'S DESIGNATION OF DRILL	HOLLOW-STEM AUGER
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	BOREHOLE DIA.: 7.5"
8. HOLE LOCATION	673929.60(Y), 555557.36(X)
9. SURFACE ELEVATION	4092.12
10. DATE STARTED	5 SEP 91
11. DATE COMPLETED	5 SEP 91
12. OVERBURDEN THICKNESS	
15. DEPTH GROUNDWATER ENCOUNTERED	11.55 ft bgl
13. DEPTH DRILLED INTO ROCK	
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	
14. TOTAL DEPTH OF HOLE	24 ft.
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	04 NOV 91 14.15 ft bmp

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
		X	

20. SAMPLES FOR CHEMICAL ANALYSIS	VOC	METALS	OTHER (SPECIFY)	OTHER (SPECIFY)	OTHER (SPECIFY)	21. TOTAL CORE RECOVERY %

22. DEPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
		X		HTH

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/RECOVERY h
	1	SILT/FILL: very pale orange (10YR 8/2), dry, non-plastic, very powdery, contained trace gravel and some organic material. (FILL)	HS=4ppm			1,2,0,1	2.0/2.0 ft
	2	SILT/FILL: very pale orange (10YR 8/2), dry, non-plastic, contained rust colored grit and iron-like fragments (3.0-4.0'). (FILL)	HS=105ppm		91JUL H003-001	0,0,0,1	2.0/2.0 ft VOA sample from 2-4 ft interval
	3						
	4	SILT/FILL: very pale orange, dry, non-plastic, very powdery, contained rust colored grit and stained soil from 4.0-5.0 ft. (FILL)				0,3,5,6	2.0/2.0 ft waste is a composite of 0-5.5 ft interval
	5						
	6	CLAY: dusky red (5R 4/2), dry, medium plastic, gypsum crystals. (CL) CLAY, as above.			91JUL H003-002	1,5,10,16	2.0/2.0 ft sample below pit from 6.0-8.0 ft
	7						
	8	CLAY, as above.					
	9						

PROJECT HOLLOMAN AFB RI/FS FOR 29 SITES HOLE NO. MW-03-01

DRILLING LOG

HOLE NO. MW-03-01

F2307

PROJECT HOLLOMAN AFB RI/FS

INSPECTOR HTH

SHEET 2 OF 2 SHEETS

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/RECOVERY h
		CLAY, as above.					5.0/5.0 ft
	11						
	12	SANDY CLAY: light brown (5YR6/4), dry, medium to low plasticity. (CL)					Water level at 16.5 ft. bgl.
	13	SILTY SAND: medium grey (N5), dry, poorly graded, very fine grained, stained grey, chemical odor. (SM)	DH=140ppm				
	14						
	15						
	16						
	17	SAND: medium grey (N5), wet, fine to medium grained, medium graded, bedding planes. (SP)	DH=150ppm	MW-003-001			GEOTECHNICAL SAMPLE: 16.5-19.0 ft
	18						
	19						
	20						
	21						4.0/4.0 ft
	22	SAND, as above.					
	23						
	24						TD= 25 ft
	25						
	26						
	27						

PROJECT HOLLOMAN AFB RI/FS FOR 29 SITES

HOLE NO. MW-03-01

ELEVATION GROUND WATER			PROJECT HOLLOMAN AFB RI/FS
DATE INSTALLED 05 SEPT 91	STARTED 1430	COMPLETED 1830	LOCATION (Coordinates or Station) 3
ELEVATION TOP OF CASING 4094.18			SIGNATURE OF INSPECTOR/INSTALLER HTH
DRILLING METHOD HOLLOW STEM AUGER			WELL NO. (as shown on drawing: title and file number) MW-03-01

MONITORING WELL CONSTRUCTION DIAGRAM

(ALL MEASUREMENTS FROM GROUND SURFACE)

PROTECTIVE CASING

TYPE OF PROTECTIVE CASING: Steel Lockbox

TOP OF WELL

PROTECTIVE POSTS

CASING DIAMETER: 2 in.

TYPE OF PIPE JOINTS: Flush Threaded

TYPE OF BLANK CASING: PVC

BACKFILL/GROUT MIX ETC. Type I Portland Cement

TOP OF SEAL

TYPE OF SEAL: 1/4" Bentonite Pellets

TOP OF FILTERPACK

TOP OF SCREEN

FILTER PACK

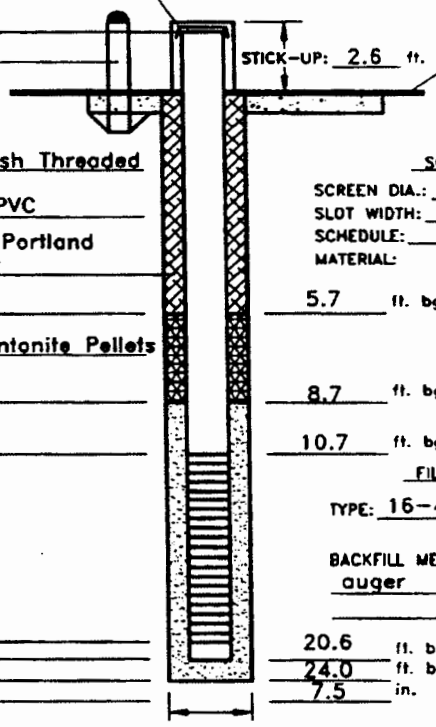
BOTTOM OF WELL

BOTTOM OF BORING

BORING DIAMETER

13.3 ft. LENGTH OF SOLID PIPE

9.5 ft. WELL SCREEN LENGTH



STICK-UP: 2.6 ft.

GROUND SURFACE

CONCRETE PAD MIN. 4.0" THICKNESS

SCREEN INFORMATION

SCREEN DIA.: 2 in.

SLOT WIDTH: 0.010 in.

SCHEDULE: 40

MATERIAL: ☒ PVC ☐ STAINLESS STEEL ☐ OTHER (DESCRIBE)

5.7 ft. bgl

8.7 ft. bgl

10.7 ft. bgl

FILTERPACK MATERIAL

TYPE: 16-40 Colorado Silica Sand

BACKFILL METHOD: Tremie through auger

20.6 ft. bgl

24.0 ft. bgl

7.5 in.

WELL DEVELOPMENT

METHOD: See well development record

TIME SPENT DEVELOPING:

VOLUME OF WATER REMOVED:

VOLUME OF WATER ADDED:

DESCRIPTION OF PREDEVELOPMENT WATER:

DESCRIPTION OF POST DEVELOPMENT WATER:

WATER LEVEL SUMMARY

WATER LEVEL MEASUREMENTS

DATE/TIME/LEVEL 05 SEPT 91/1600/13.3 ft bgl

04 NOV 91/1533/14.15 ft. bmp

DEPTH FROM TOP CASING AFTER DEVELOPMENT:

F2324

Appendix A-2-1

Portions of the *Installation Restoration Program, Phase II – Confirmation/Quantification Stage 1, Report (April 1984 to March 1985) for Holloman Air Force Base, New Mexico 88330*

Dames & Moore, March 6, 1987

INSTALLATION RESTORATION PROGRAM
PHASE II - CONFIRMATION/QUANTIFICATION
STAGE 1

REPORT (APRIL 1984 TO MARCH 1985)

FOR

HOLLOMAN AIR FORCE BASE
NEW MEXICO 88330

HEADQUARTERS TACTICAL AIR COMMAND
COMMAND SURGEON'S OFFICE (HQ TAC/SGPB)
BIOENVIRONMENTAL ENGINEERING DIVISION
LANGLEY AIR FORCE BASE, VIRGINIA 23665-5001

MARCH 6, 1987

PREPARED BY

DAMES & MOORE
1550 NORTHWEST HIGHWAY
PARK RIDGE, ILLINOIS 60068

USAF CONTRACT NO. F33615-83-D-4002, DELIVERY ORDER NO. 0025

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED

USAFOEHL TECHNICAL PROGRAM MANAGER

LT. COL. EDWARD BARNES
USAFOEHL/TS

USAF OCCUPATIONAL & ENVIRONMENTAL HEALTH LABORATORY (USAFOEHL)
TECHNICAL SERVICES DIVISION (TS)
BROOKS AIR FORCE BASE, TEXAS 78235-5501

TABLE 1

CHEMICAL SAMPLING EVENTS
HOLLOMAN AFB, NEW MEXICO
PHASE II, STAGE 1

SITE	OIL & GREASE, TOC[a] AND TOX	PHENOLICS	PESTICIDES[b]	TRACE METALS	C^{14} AND TRITIUM
1	3W	3W	3W	3W[c]	—
50	1W, 5S	1W, 5S	1W	—	—
51	1W, 6S	1W, 6S	—	—	—
13	—	—	—	1W[d], 6S[e]	—
18	—	—	—	1W[f], 6S[g]	—
32	8S	—	—	—	8S
31	1W, 9S	1W, 9S	—	1W[h], 9S[i]	—

Note: W = water sample, S = soil sample.

[a]Soils not analyzed for TOC.

[b]Aldrin, DDT isomers, dieldrin, endrin, heptachlor, heptachlor epoxide, lindane, methoxychlor, diazinon, malathion, parathion.

[c]Arsenic, chromium, cadmium, lead, nickel, silver.

[d]Arsenic.

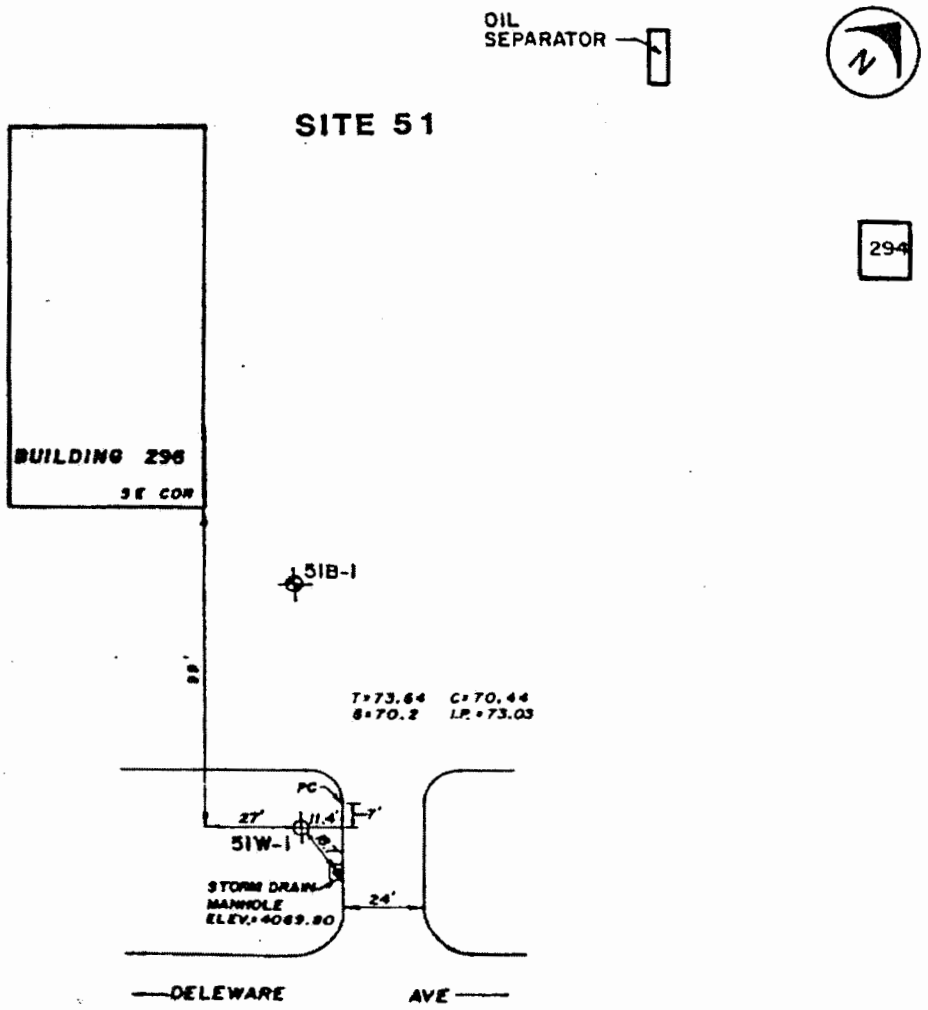
[e]Total arsenic by EP toxicity extraction.

[f]Total chromium and hexavalent chromium.

[g]Total chromium and hexavalent chromium by EP toxicity extraction.

[h]Total lead.

[i]Total lead by EP toxicity extraction.



EXPLANATION:

BORING LOCATION AND NUMBER

MONITORING WELL LOCATION AND NUMBER

DRAWING REFERENCE:
TITLED: SURVEY PLAT
BY: BURKE/COLLINS/ASSOCIATES PC
ENGINEERS-SURVEYORS
ALAMOGORDO, NEW MEXICO
DRAWING NO.: 84372
DATE: 10-18-84

Scale in Feet
0 50 100

SITES 51

Dames & Moore

Figure 8

TABLE 2

WELL CONSTRUCTION DETAILS

WELL NUMBER	DEPTH (ft)	WATER TABLE ELEVATION (10/02/84) (ft)	SCREENED INTERVAL (ft)	GROUND ELEVATION (ft)
1W1	58	4084.79	4062.2 - 4087.2	4120.2
1W2	40	4079.45	4059.2 - 4084.2	4099.2
1W3	34	4077.22	4057.9 - 4082.9	4091.9
13W1	20	4071.94	4058.6 - 4073.6	4078.6
18W1	20	4069.84	4054.8 - 4064.8	4074.8
31W1	38	4080.34	4063.2 - 4083.2	4101.2
50W1	19	4064.56	4051.1 - 4066.1	4070.1
51W1	19	4064.90	4051.2 - 4066.2	4070.2

TABLE 4

SUMMARY OF CONSTITUENTS ABOVE DETECTION IN WATER SAMPLES

PARAMETER	STANDARD USEPA[a]	STANDARD NEW MEXICO[b]	UNIT	DETECTION LIMIT	WELL NUMBER 1W1	1W2	1W3	51W1	13W1	18W1	31W1	50W1
Arsenic	0.05	0.1	mg/L	0.01	d	d	d	--	0.01	--	--	--
Cadmium	0.01	0.01	mg/L	0.01	0.09	0.21	0.24	--	--	--	--	--
Nickel	--	0.2[c]	mg/L	0.1	0.2	0.4	0.5	--	--	--	--	--
Lead	0.05	0.05	mg/L	0.01	d	0.03	0.05	--	--	--	d	--
Silver	0.05	0.05	mg/L	0.01	0.10	0.18	0.21	--	--	--	--	--
Chromium (hexavalent)	--	--	mg/L	0.004	--	--	--	--	--	0.007	--	--
Oil and grease	--	--	µg/L	600.	4,200.	3,400.	5,300.	85,000	--	--	15,000	140,000
TOC	--	--	µg/L	1000.	14,000.	24,000.	7,000.	68,000	--	--	170,000	95,000
TOX	--	--	µg/L	10.	140,000.	200,000.	220,000.	27,000	--	--	17,000	120
Phenolics	--	5.0	µg/L	10.	d	d	20.	290	--	--	d	d

[a]Safe Drinking Water Act (42 USCA §300f et seq.).

[b]New Mexico Water Quality Control Commission Regulations (does not necessarily apply to discharges to water with an existing TDS of greater than 10,000 ppm).

[c]Standard for irrigation use.

[d]Denotes value less than the limit of detection.

TABLE 5

SUMMARY OF CONSTITUENTS ABOVE DETECTION LIMITS IN SOIL SAMPLES
(CORRECTED FOR PERCENT MOISTURE)

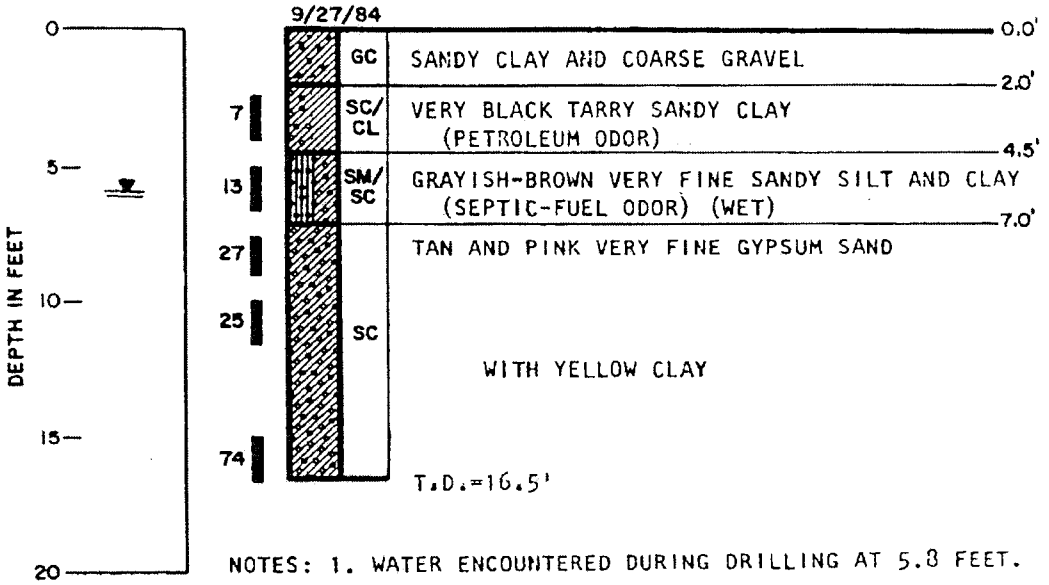
BORING/WELL NO. AND DEPTH	PARAMETER					
	CARBON-14 (pCi/g)	ARSENIC[a] (mg/L)	LEAD[a] (mg/L)	OIL AND GREASE (mg/kg)	TOX (mg/kg)	PHENOLICS (mg/kg)
Standard[b]	--	5.0	5.0	--	--	--
Detection Limit	--	0.01	0.01	7	5.0	1
13B1, 0-1'	--	0.04	--	--	--	--
31B1, 5-6.5'	--	--	c	c	8.2	c
31B1, 7.5-9'	--	--	c	40	c	c
31B2, 2.5-4'	--	--	c	c	7.7	c
31B2, 5-6.5'	--	--	c	25	7.5	c
31B2, 7.5-9'	--	--	c	32	7.4	c
31W1, 2.5-4'	--	--	c	c	8.1	1
31W1, 5-6.5'	--	--	c	44	42.5	c
31W1, 7.5-9'	--	--	c	c	7.1	c
51B1, 5-6.5'	--	--	--	39	7.0	c
51B1, 7.5-9'	--	--	--	c	30.3	c
51B1, 10-11.5'	--	--	--	c	9.0	c
51W1, 5-6.5'	--	--	--	c	50.0	c
51W1, 10-11.5'	--	--	--	c	6.4	c
32B1, 10-11.5'	240±194	--	--	c	c	--
32B2, 7.5-9'	c	--	--	16	c	--
32B2, 10-11.5'	c	--	--	c	24.7	--
32B3, 10-11.5'	c	--	--	c	7.7	--
32B4, 7.5-9'	--	--	--	9	c	--
32B4, 10-11.5'	c	--	--	15	8.0	--
50B1, 5-6.5'	--	--	--	1192	c	c
50B1, 7.5-9'	--	--	--	4265	c	c
50W1, 5-6.5'	--	--	--	160	c	17
50W1, 7.5-9'	--	--	--	3700	c	c
50W1, 10-11.5'	--	--	--	1143	c	c

[a]Samples have been extracted for EP toxicity according to Method 1310 published in USEPA Publication No. SW-846.

[b]Federal Resource Conservation and Recovery Act of 1982 and New Mexico Hazardous Waste Management Regulations are nearly identical.

[c]Denotes value less than the limit of detection.

HOLLOMAN AFB
BORING 51-BI



NOTES: 1. WATER ENCOUNTERED DURING DRILLING AT 5.8 FEET.

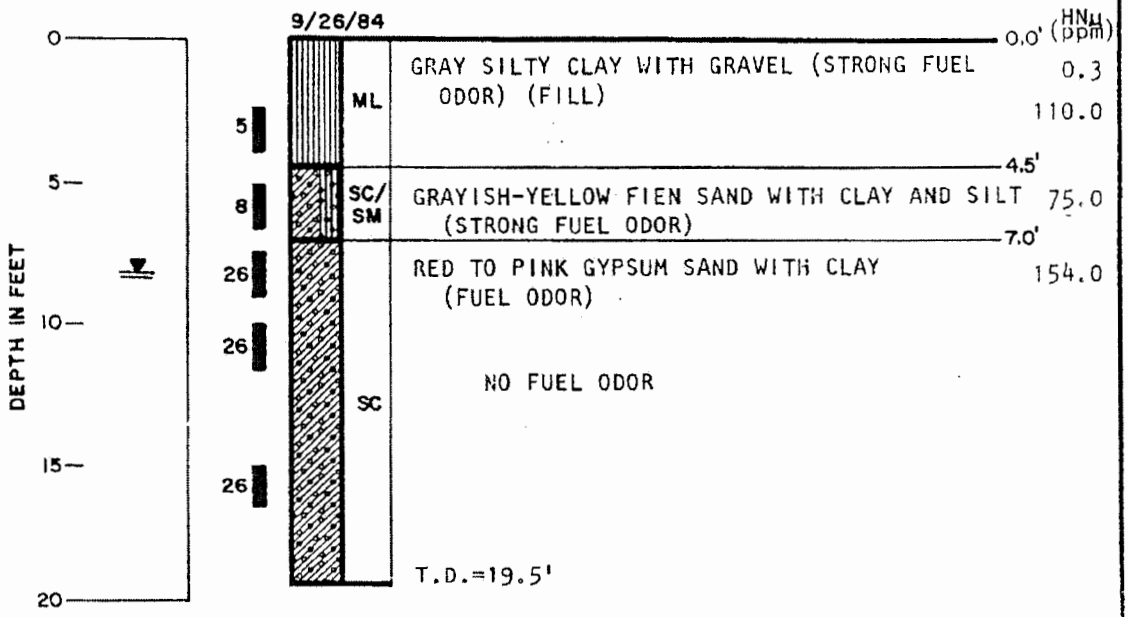
2. HNμ READINGS WERE NOT RECORDED DUE TO EQUIPMENT MALFUNCTION.

LOG OF BORING

Dames & Moore

PLATE C-8

HOLLOMAN AFB
BORING 51-W1



NOTES: 1. STATIC WATER LEVEL MEASURED 10/2/84.

LOG OF BORING

Dames & Moore

PLATE C-9

PIEZOMETER DETAIL INFORMATION SHEET

GROUND SURFACE ELEVATION 4070.2

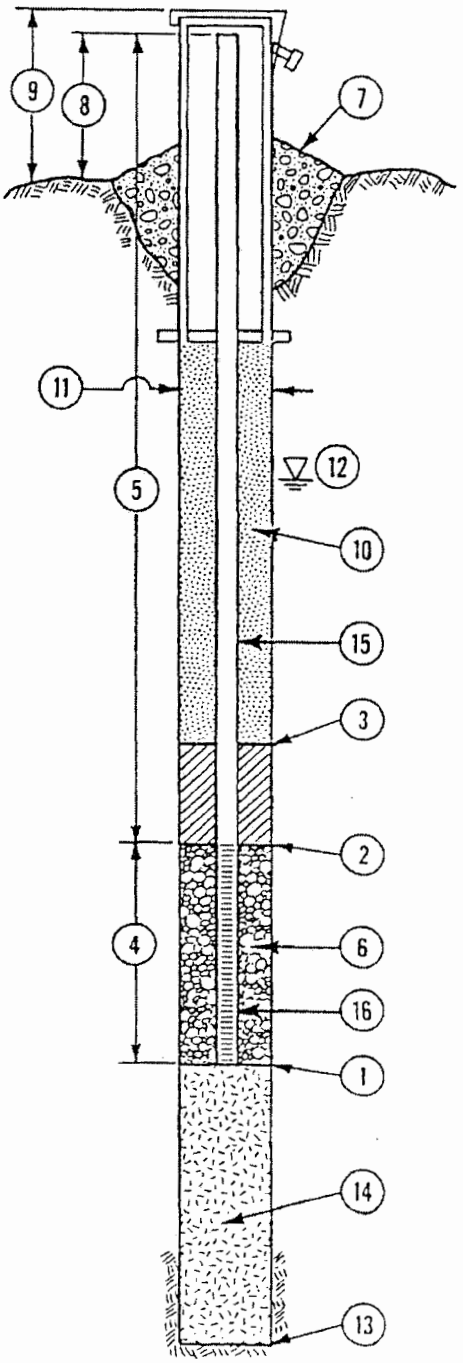
TOP OF WELL CASING ELEVATION 4073.03

JOB NUMBER 01016-210-07

BORING NUMBER 51-W1

DATE 9/26/84

LOCATION Hollloman AFB



1. DEPTH TO BOTTOM OF WELL POINT OR SLOTTED PIPE 19.5 FEET.*
2. DEPTH TO BOTTOM OF SEAL (IF INSTALLED) 3.5 FEET.*
3. DEPTH TO TOP OF SEAL (IF INSTALLED) 2.0 FEET.*
4. LENGTH OF WELL SCREEN 15 FEET. SLOT SIZE 0.010.
5. TOTAL LENGTH OF PIPE 22 FEET AT 2 INCH DIAMETER.
6. TYPE OF PACK AROUND WELL POINT OR SLOTTED PIPE pea gravel/sand.
7. CONCRETE CAP. (YES) NO (CIRCLE ONE)
8. HEIGHT OF WELL CASING ABOVE GROUND 2.8 FEET.
9. PROTECTIVE CASING? (YES) NO (CIRCLE ONE) HEIGHT ABOVE GROUND ____ FEET. LOCKING CAP? (YES) NO (CIRCLE ONE)
10. TYPE OF UPPER BACKFILL concrete.
11. BOREHOLE DIAMETER 7.25 INCHES.
12. DEPTH TO GROUND WATER 8.13 FEET. **
13. TOTAL DEPTH OF BOREHOLE 19.5 FEET.*
14. TYPE OF LOWER BACKFILL pea gravel.
15. PIPE MATERIAL Sch. 40 screw joint
16. SCREEN MATERIAL Sch 40 Machine cut

*(DEPTH FROM GROUND SURFACE)

**(DEPTH FROM TOP OF PROTECTIVE CASING)

PIEZOMETER INSTALLATION DETAILS

Dames & Moore

Appendix A-2-2

Portions of the *Final Remedial Investigation Report, Holloman Air Force Base, New Mexico*

Walk, Haydel & Associates, December 1989

INSTALLATION RESTORATION PROGRAM
REMEDIAL INVESTIGATION

FINAL

REMEDIAL INVESTIGATION REPORT
HOLLOMAN AIR FORCE BASE, NEW MEXICO

VOLUME I

CONTRACT NUMBER DACA45-86-C-0043
MODIFICATION NUMBERS P00007, P00014
WALK, HAYDEL & ASSOCIATES JOB NUMBER 87-3781

DECEMBER, 1989

UNDER CONTRACT WITH:

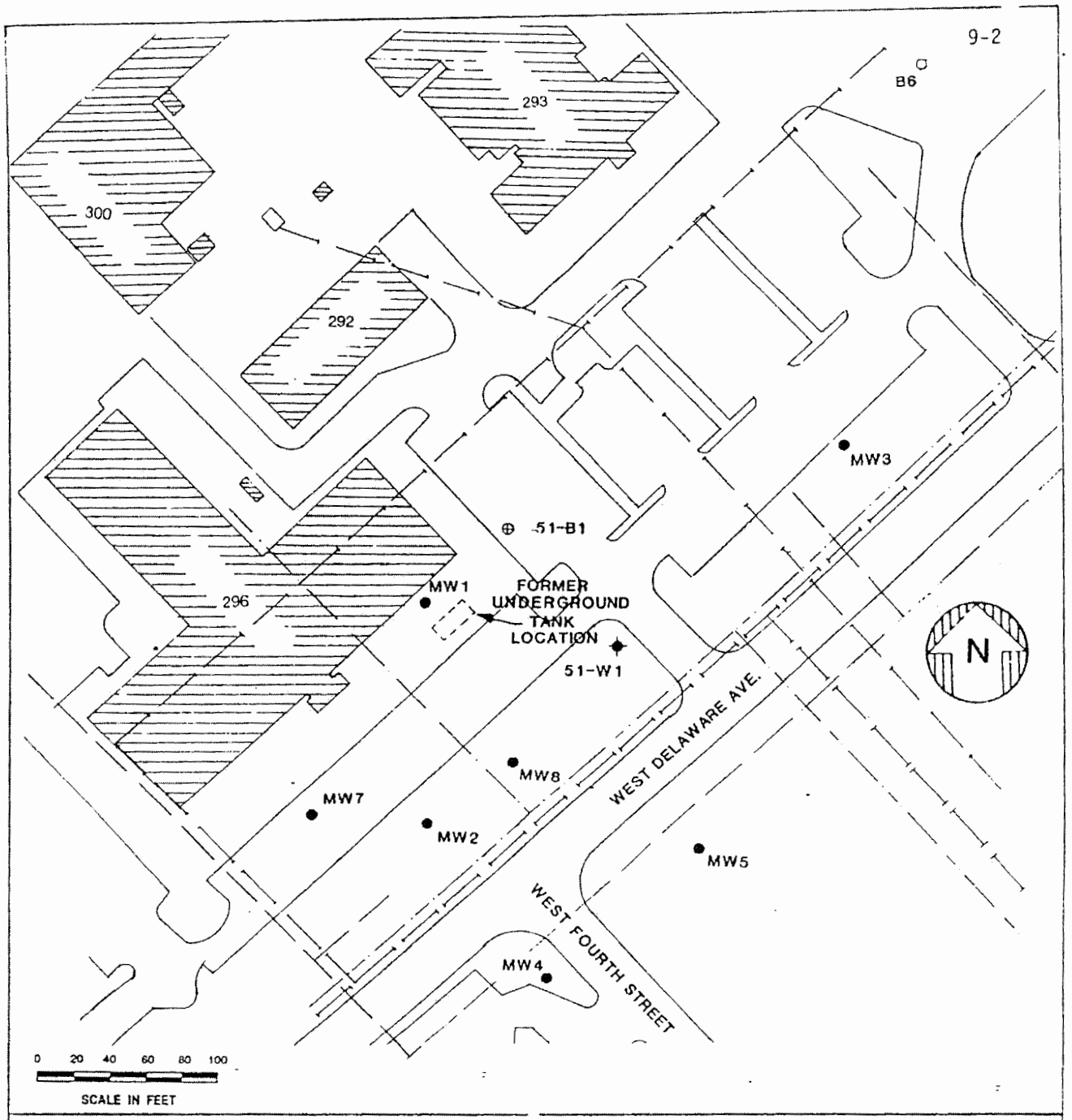
OMAHA DISTRICT, CORPS OF ENGINEERS
215 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4978

FOR:

HEADQUARTERS, TACTICAL AIR COMMAND
HQ, TAC/DEEV
LANGLEY AIR FORCE BASE, VIRGINIA 23665-5542

PREPARED BY:

WALK, HAYDEL & ASSOCIATES, INC.
ENGINEERS
NEW ORLEANS MOBILE LITTLE ROCK BATON ROUGE



LEGEND

- ● MONITORING WELL
- ○ SOIL BORING
- ⊕ PHASE II SOIL BORING
- ✦ PHASE II MONITORING WELL
- SEWAGE/DRAINAGE LINE
- WATER LINE
- GAS LINE
- STORM DRAIN
- UNDERGROUND TANK

FIGURE 9-1

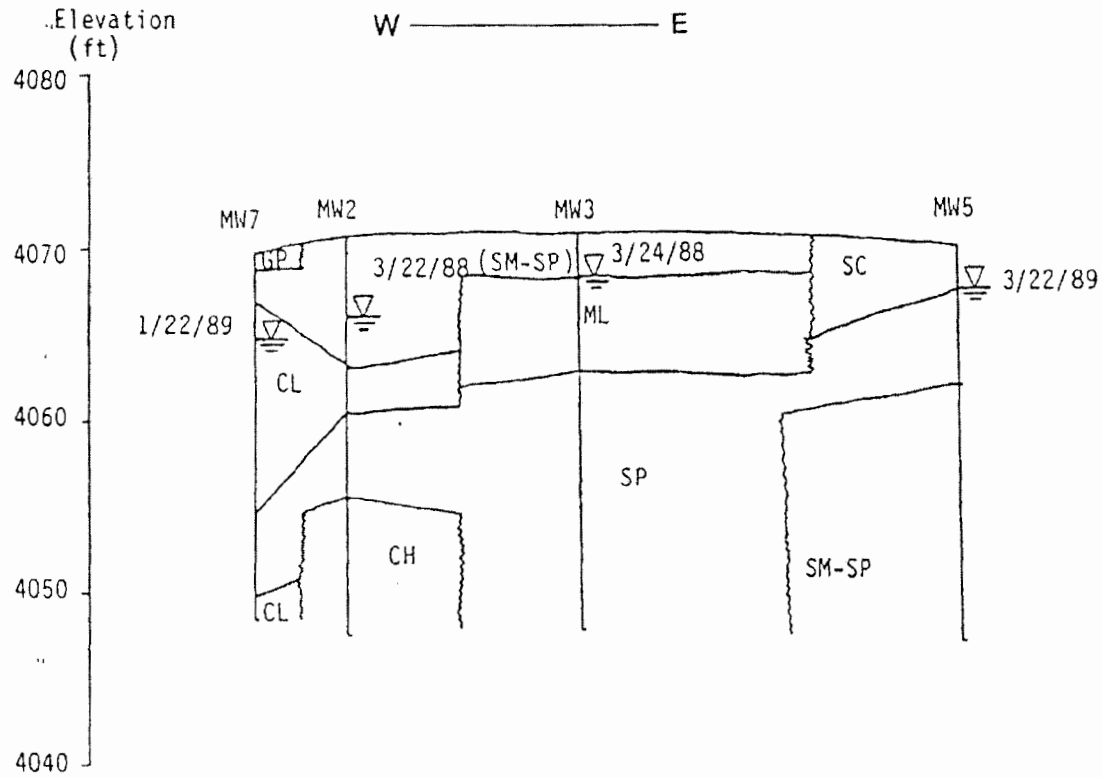
SITE 51

OLD AGE REFUELING STATION

CONTRACT NO. DACA45-86-C-0043

REMEDIAL INVESTIGATION

HOLLOMAN AFB, NEW MEXICO



HORIZONTAL SCALE: 1" = 100'

LEGEND

WATER LEVEL DURING DRILLING ON DATE INDICATED

FIGURE 9-2

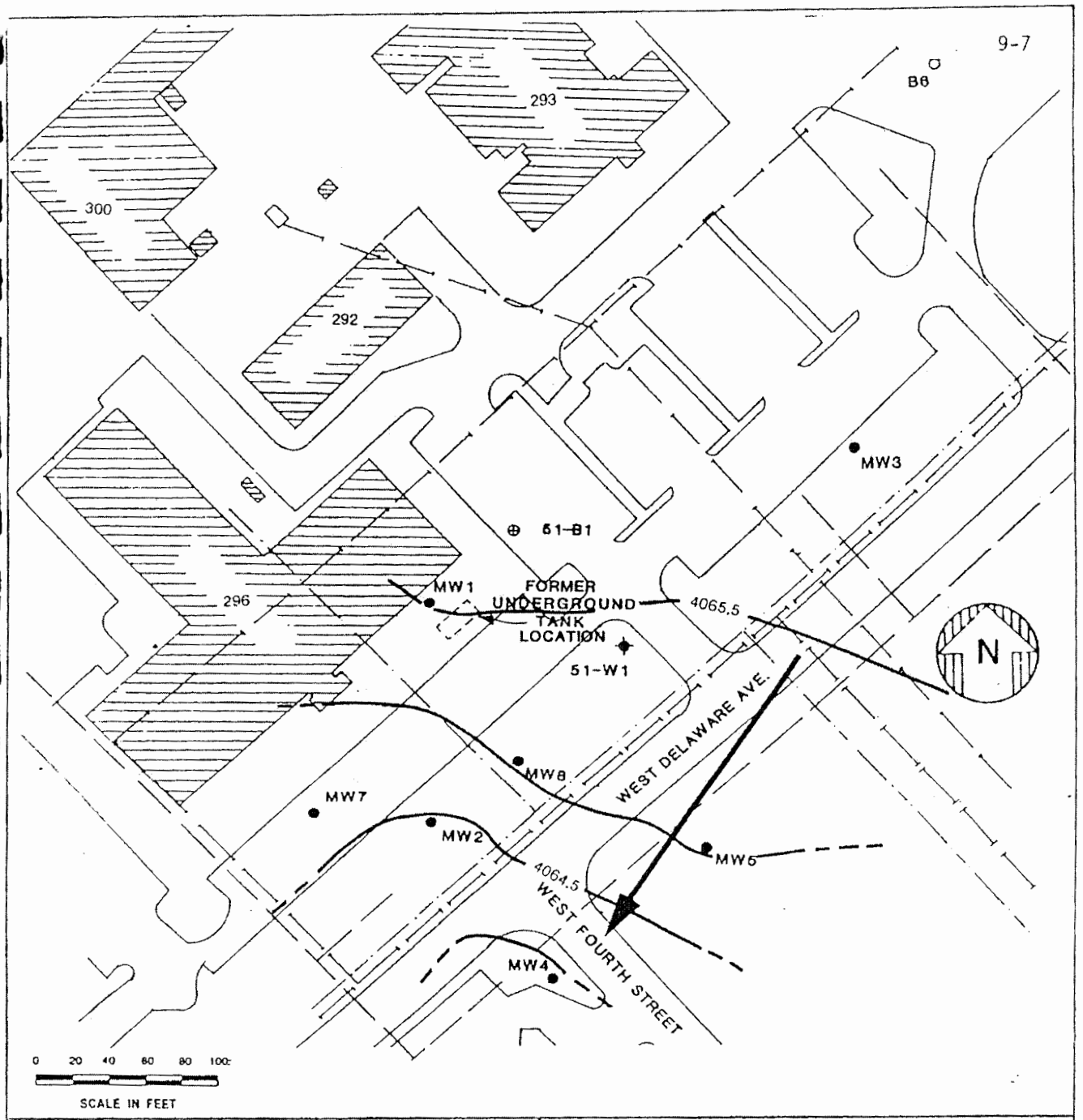
SITE 51
GENERALIZED SOIL PROFILE

CONTRACT NO. DACA45-86-C-0046

REMEDIAL INVESTIGATION
HOLLOMAN AFB, NEW MEXICO

WHBA 1012 (REV.3/83)

WALK, HAYDEL & ASSOCIATES, INC.
ENGINEERS
NEW ORLEANS—MOBILE—BATON ROUGE



LEGEND

- MONITORING WELL
- SOIL BORING
- PHASE II SOIL BORING
- PHASE II MONITORING WELL
- SEWAGE/DRAINAGE LINE
- WATER LINE
- GAS LINE
- STORM DRAIN
- UNDERGROUND TANK
- GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION

FIGURE 9-3

SITE 51

GROUNDWATER CONTOUR MAP

CONTRACT NO. DACA45-86-C-0043

REMEDIAL INVESTIGATION

HOLLOMAN AFB, NEW MEXICO

WH&A 1012 (REV.3/83)

WALK, HAYDEL & ASSOCIATES, INC.
ENGINEERS
NEW ORLEANS—MOBILE—BATON ROUGE

TABLE 9-1

SITE 51 - SOIL

VOLATILE ORGANICS (ug/kg)

	Depth (ft)	Boring B1	B2	B3	B4	B5	B7	B8
	0				-	-		
Benzene	2.5	-	14			-		(540)
Ethylbenzene		-	70			-		(1115)
Toluene		-	2			-		(845)
Total Xylenes		-	-			-		(1470)
Benzene	5	47*	3100*				(-)	(9)
Chlorobenzene			7500					(-)
Ethylbenzene		27	62300					(28)
Styrene			2010					(-)
Toluene			22800					(10)
Total Xylenes			-					(14)
1,1,2,2-Tetrachloroethane			19400					(-)
Benzene	7.5			6	-		(-)	
1,1-Dichloroethane				6	-		(-)	
1,1-Dichloroethene				4	-		(-)	
1,1,1-Trichloroethane				4	-		(-)	
Benzene	10		-	7				
Ethylbenzene			-	2				
1,1-Dichloroethane			-	25				
1,1-Dichloroethene			-	10				
1,1,1-Trichloroethane			-	10				
Total Xylenes			-	1				
Benzene	15			7	-	-	(-)	
Ethylbenzene				4	-	-	(-)	
1,1-Dichloroethene				3	-	-	(-)	
Toluene				6	-	-	(-)	
Total Xylenes				1	-	-	(-)	
	20							(-)

- Not detected
( ) Stage II data
* Outside QC limits due to out-of-range surrogate recoveries

TABLE 9-2
SITE 51 - SOIL
BNA/TIC

	Depth (ft)	Boring B1	B2	B3	B4	B5	B7	B8
BNA or BN Extractables (ug/kg)								
	0				-	-**		
	2.5	-	-			-		(-)*
2-Methylnaphthalene	5	-	5,200				(-)*	
Naphthalene		-	26,000				(-)*	
	7.5	-		-	-		(-)*	
	10		-	-				
	15			-	-	-*	(-)*	
	20							(-)
Tentatively Identified Compounds (ug/kg)								
Pentane	2.5						(-)	(46)
Cyclohexane							(-)	(818)
Methyl-cyclopentane							(-)	(335)
Trans-1,3-Dimethyl-cyclopentane							(-)	(180)
Methylcyclohexane							(-)	(2000)
1,1-Oxybis (hexane)							(-)	(142)
Trans 1,2-Dimethyl-cyclohexane							(-)	(71)
1,3,5-Cyclo-heptatriene							(-)	(832)
Trans 1,3-Dimethyl-cyclohexane							(-)	(286)
1,1-Dimethyl-cyclohexane							(-)	(495)

- Not detected
* Acid extractables not reported due to out-of-range surrogate recoveries.
** Elevated detection limit (x200)
( ) Stage II data

TABLE 9-3

SITE 51 - SOIL

TRPH/LEAD (mg/kg)

	Depth (ft)	Boring						
		B1	B2	B3	B4	B5	B7	B8
TRPH								
	0				32	663		
	2.5	-	35			-		(42)
	5	-	1265				(20)	(41)
	7.5	-		-	87		(32)	
	10		-	-				
	15			-	-	-	(24)	
	20							(20)
LEAD								
	0				6	6		
	2.5	3	5			-		
	5	1	1					
	7.5		1	-	1			
	10		1	-				
	15			1	1	1		

\- Not detected
( ) Stage II data

TABLE 9-4

SITE 51 - GROUNDWATER

ORGANICS (ug/L)

	Monitoring Well							
	W1	MW1	(MW1)	MW2	(MW2)	(MW2FP)	MW3	(MW3)
Volatiles								
Benzene	(16)	-	(-)	6	(220)	(300000)	-	(40)
Chlorobenzene	(-)	-	(-)	-	(-)	(650000)	-	(-)
Chloroform	(-)	-	(59)	-	(-)	(-)	-	(-)
1,1 Dichloroethane	(23)	59	(-)	3	(-)	(-)	-	(740)
1,1-Dichloroethene	(-)	-	(13)	-	(-)	(-)	-	(310)
Ethylbenzene	(-)	-	(-)	-	(450)	(4800000)	-	(-)
2-Hexanone	(-)	-	(-)	-	(-)	(650000)	-	(-)
Tetrachloroethene	(-)	-	(-)	-	(-)	(-)	-	(160)
Toluene	(-)	-	(-)	4	(280)	(700000)	-	(-)
Total Xylenes	(-)	-	(-)	34	(720)	(5250000)	-	(-)
1,1,1-Trichloroethane	(-)	-	(-)	-	(-)	(-)	-	(90)
Trichloroethene	(-)	15	(-)	3	(-)	(-)	-	(60)
Acid/Base/Neutral Extractables								
Bis(2-ethylhexyl) phthalate	-	-	(-)	-	-		21	

WH&A 1012 (REV.3/83)
WALK, HAYDEL & ASSOCIATES, INC.
ENGINEERS
NEW ORLEANS—MOBILE—BATON ROUGE

TABLE 9-4 (continued)

SITE 51 - GROUNDWATER

ORGANICS (ug/L)

	Monitoring Well					
	MW4	(MW4)	MW5	(MW5)	MW7	MW8
Volatiles						
1,1-Dichloroethane	-	(20)	-	-	(-)	(10)
1,1-Dichloroethene	-	(7)	-	-		
Tetrachloroethene	-	(24)	11	20	(-)	(-)
Trichloroethene	-	(6)	3	-	(8)	(-)
Acid/Base/Neutral Extractables						
Bis(2-ethylhexyl)phthalate	-		-		(-)	(18)*
1,2-Dichlorobenzene	-		-		(12)	

- Not detected
* Corps of Engineers lab data
FP Floating product
( ) Stage II data

WH&A 1012 (REV.3/83)
WALK, HAYDEL & ASSOCIATES, INC
ENGINEERS
NEW ORLEANS-MOBILE-BATON ROUGE

TABLE 9-5

SITE 51 - GROUNDWATER

TRPH/LEAD

	Monitoring Well			
	W1	MW1	MW2	MW2(FP)
TRPH (mg/L)	-	-	-	-
	(1)	(-)	(3)	(560000)
LEAD (ug/L)	9	-	-	

	Monitoring Well				
	MW3	MW4	MW5	MW7	MW8
TRPH (mg/L)	-	-	-		
	(-)	(-)	(-)	(-)	(-)
LEAD (ug/L)	27	20	12		

\- Not detected
( ) Stage II data

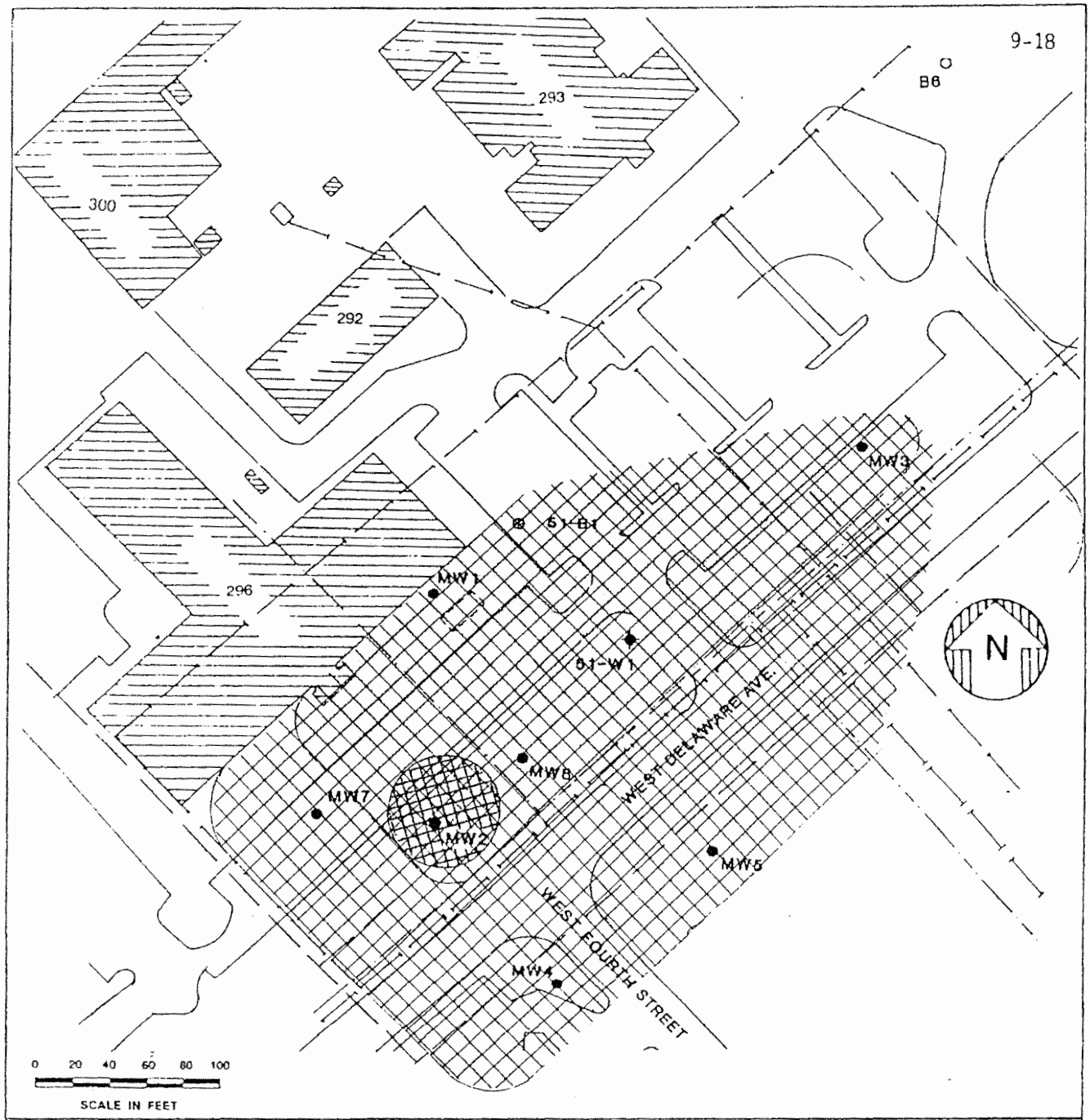
TABLE 9-6

SITE 51 - GROUNDWATER

TENTATIVELY IDENTIFIED COMPOUNDS (ug/L)

Tentatively Identified Compounds	Monitoring Well MW2(FP)
Methylcyclohexane	(2399000)
Trans-1,2-Dimethyl-cyclohexane	(655000)
1,1-Dimethylcyclopentane	(503000)
Trans 1,3-Dimethyl-cyclopentane	(1443000)
1,1,3-Trimethyl-cyclopentane	(2709000)
Cis-1,3-Dimethyl-cyclohexane	(2043000)
1,1,3-Trimethyl-cyclohexane	(3255000)
3,5,5 Trimethyl-1-Hexane	(2158000)
Ethylcyclohexane	(4770000)

( ) Stage II data
FP Floating product



LEGEND

- MONITORING WELL
- SOIL BORING
- PHASE II SOIL BORING
- PHASE II MONITORING WELL
- SEWAGE/DRAINAGE LINE
- WATER LINE
- GAS LINE
- STORM DRAIN
- UNDERGROUND TANK
- SOIL CONTAMINATION
- GROUNDWATER CONTAMINATION
- FLOATING PRODUCT

FIGURE 9-4

SITE 51

AREA OF KNOWN CONTAMINATION

CONTRACT NO. DACA45-86-C-0043

REMEDIAL INVESTIGATION

HOLLOMAN AFB, NEW MEXICO

WH&A 1012 (REV.3/83)

WALK, HAYDEL & ASSOCIATES, INC.
ENGINEERS
NEW ORLEANS—MOBILE—BATON ROUGE

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File: 17A-8
R.L. 515
43

INSTALLATION RESTORATION PROGRAM
REMEDIAL INVESTIGATION

FINAL

REMEDIAL INVESTIGATION REPORT
HOLLOMAN AIR FORCE BASE, NEW MEXICO

VOLUME V

CONTRACT NUMBER DACA45-86-C-0043
MODIFICATION NUMBERS P00007, P00014
WALK, HAYDEL & ASSOCIATES JOB NUMBER 87-3781

DECEMBER, 1989

UNDER CONTRACT WITH:

OMAHA DISTRICT, CORPS OF ENGINEERS
215 NORTH 17TH STREET
OMAHA, NEBRASKA 68102-4978

FOR:

HEADQUARTERS, TACTICAL AIR COMMAND
HQ, TAC/DEEV
LANGLEY AIR FORCE BASE, VIRGINIA 23665-5542

PREPARED BY:

WALK, HAYDEL & ASSOCIATES, INC.
ENGINEERS
NEW ORLEANS MOBILE LITTLE ROCK BATON ROUGE

PROFESSIONAL SERVICE INDUSTRIES, INC.

BORING NO. S51-MW1 PROJECT NO. 342-65219H PROJECT NAME Holloman Air Force Base

DATE/TIME START 3/27/88 7:30 DATE/TIME END 3/27/88 9:45 DRILL CREW Mitchell*, Caho, Flair

*Engineer

DRILLING METHOD: AUGER 0 FT TO 23 FT, ROTARY - FT TO - FT DRILL RIG CME 55

AUGER/BIT SIZE(S) & INTERVAL(S) 3¼ I.D./All SURFACE COVER Gravel

TOC ELEV. 4071.54 BORING COORDINATES N 670404 E 551029 WATER DURING DRILLING 4.5'

WATER AT COMPLETION 4.5' DELAYED WATER LEVEL Monitor well installed in boring

DATE GROUTED N/A MATERIAL(S) & QUANTITY N/A

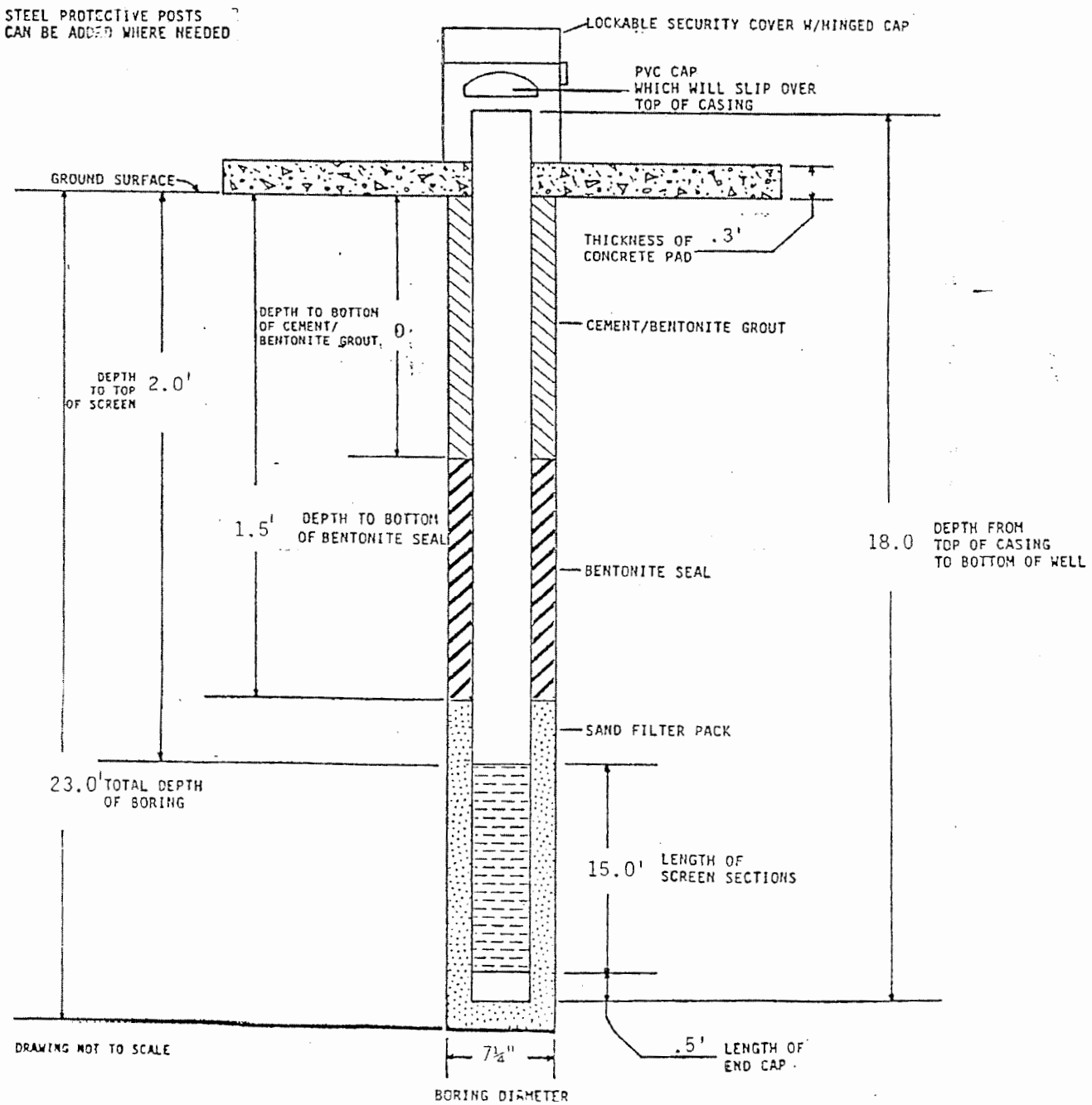
DEPTH FT.	SAMPLE TYPE & INTERVAL	MOISTURE	SOIL DESCRIPTION & VISUAL CLASSIFICATION	SPT	* PID (ppm)	HAND PENETROMETER (tsf)	OTHER
	SS	M	Red-brown silty SAND (SM)	4-5-8	0.6		Nonplastic
							Mc = 19%
	SS	M/W	Light gray SAND w/gypsum crystals (SP)	2-3-8	11.0		
5							
	SS	W		5-4-4	30.0		
			Red-brown, tan mottled sandy silty CLAY w/gypsum crystals (CL)				
	SS	W		8-13-18	3.7		
10							
	SS	M/W		8-25-34	3.0		LL=32, PI=14
							Mc=25
15							
	SS	W	Brown SAND w/ Trace Silt (SP)	20-75-5/3/4"	1.0		
20							
25			Total Depth of Boring = 23.0 feet LL=Liquid Limit PI=Plasticity Index Mc= Moisture Content				

TYPE SAMPLE KEY
SS - SPLIT SPOON
ST - SHELBY TUBE
PB - PITCHER BARREL
RC - ROCK CORE
TC - TWO CORE

MOISTURE KEY
D - DRY (VERY LITTLE MOISTURE)
M - MOIST (SOME MOISTURE)
W - WET (SATURATED)

PROJECT Holloman Air Force Base MONITOR WELL I.D. NO. H-STE-51-MW1

Monitor Well Data Sheet



DEVELOPMENT DATA

PROJECT: Holloman Air Force Base

PROJECT NO.: 342-65219 SITE NO.: 51 MONITOR WELL NO.: MW1

WELL DIA./MATERIAL: 2" PVC FLUSH MOUNT: ____ ABOVE GRADE: X

TOP OF CASING TO BOTTOM OF WELL: 18.0' FT.

WATER LEVEL BEFORE DEVELOPMENT: 5.9 FT. DATE 4/10/88 TIME 8:40

WATER LEVEL AFTER DEVELOPMENT: 7.8 FT. DATE 4/10/88 TIME 12:55

DATE DEVELOPED: 4/10/88 TIME INTERVAL: 4 hrs.

VALUES OF PARAMETERS AFTER CONSTANT LEVEL OBTAINED:

pH: 8.43 TEMPERATURE: 26.2 °C

CONDUCTIVITY: 3.36 m/cm Ω TURBIDITY: 14.0 NTU

VOLUME OF WATER REMOVED DURING DEVELOPMENT: 215 GAL.

APPROXIMATE RATE OF WATER REMOVAL: 54 GAL/HR

EQUIPMENT USED DURING DEVELOPMENT:

SURGE BLOCK X PVC HAND PUMP ____ PVC BAILER ____

STAINLESS BAILER ____ RIG PUMP X AIR LIFT ____

SUBMERSIBLE PUMP ____ OTHER: ____

PHOTO OF WATER? YES X NO ____

RISING HEAD TEST DATA **

DEPTH TO WATER AFTER DRAWDOWN: ____ FT. TIME: ____

DEPTH TO WATER DURING RECOVERY: ____ FT. TIME: ____

DEPTH TO WATER DURING RECOVERY: ____ FT. TIME: ____

EQUIPMENT USED TO PERFORM TEST: ____

PERSONNEL: Monroe/Flair/Heitman

Well passed plumbness test with 1 7/8" OD pipe 4/10/88

* ALL WATER LEVEL MEASUREMENTS FROM TOP OF CASING

** REFER TO IN-SITU PERMEABILTY REPORT.

PROFESSIONAL SERVICE INDUSTRIES, INC.

BORING NO. S51-MW2 PROJECT NO. 342-65219H PROJECT NAME Holloman Air Force Base

DATE/TIME START 3/22/88 10:00 DATE/TIME END 3/22/88 12:15 DRILL CREW Mitchell,* Caho, Flair
*Engineer

DRILLING METHOD: AUGER 0 FT TO 23 FT, ROTARY - FT TO - FT DRILL RIG CME 55

AUGER/BIT SIZE(S) & INTERVAL(S) 3¼ I.D./All SURFACE COVER Gravel

TOC ELEV. 4070.79 BORING COORDINATES N 670280 E 551021 WATER DURING DRILLING 4.5'

WATER AT COMPLETION 4.5' DELAYED WATER LEVEL Monitor well installed in boring

DATE GROUTED N/A MATERIAL(S) & QUANTITY N/A

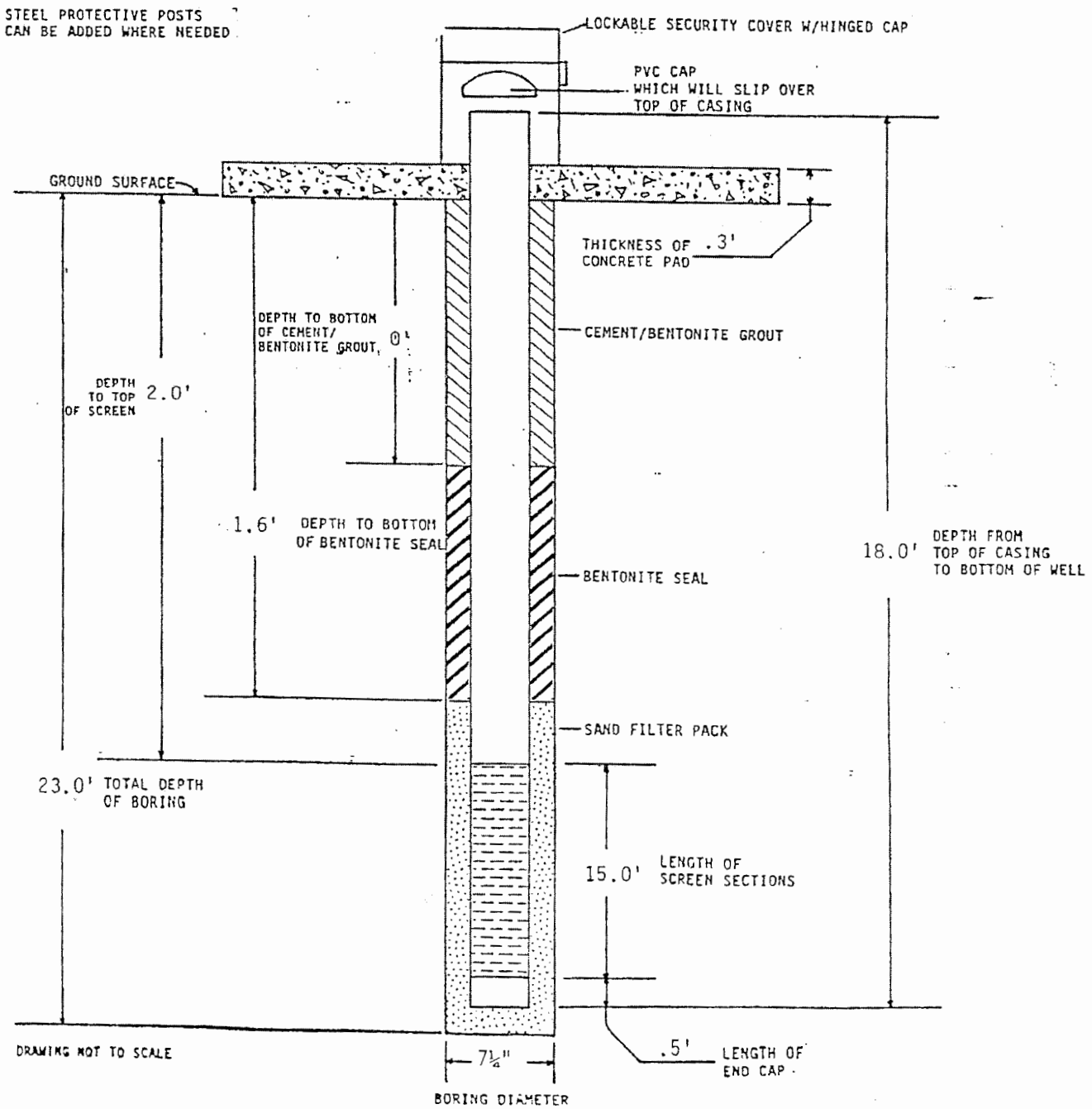
DEPTH FT.	SAMPLE TYPE & INTERVAL	MOISTURE	SOIL DESCRIPTION & VISUAL CLASSIFICATION	SPT	PID (ppm)	HAND PENETROMETER (tsf)	OTHER
	SS	M	Brown SAND w/gravel & clay seams & Trace silt (SM-SP)	10-13-8	3.0*		
	SS	M/W		2-3-8	17.0		LL=27, PI=6 Mc=20
5	SS	W		2-2-1	24.0		
	SS	M/W	Red-brown sandy silty CLAY w/ gypsum crystals (CL)	11-26-34	17.0		
10	SS	W	Light tan SAND w/gypsum crystals (SP)	9-16-24	20.0		
15	SS	M/W	Red-brown silty CLAY w/gypsum crystal seams (CH)	10-21-30	4.2		LL=51, PI=26 Mc=27
20							
25			Total Depth of Boring = 23.0 feet				

SOIL SAMPLE KEY
SS - SPLIT SPOON
ST - SHELBY TUBE
PB - PITCHER BARREL
RC - ROCK CORE
TC - TWO CONE

MOISTURE KEY
D - DRY (VERY LITTLE MOISTURE)
M - MOIST (SOME MOISTURE)
W - WET (SATURATED)

PROJECT Holloman Air Force Base MONITOR WELL I.D. NO. H-STE-51-MW2

Monitor Well Data Sheet



DEVELOPMENT DATA

PROJECT: Holloman Air Force Base

PROJECT NO.: 342-65219 SITE NO.: 51 MONITOR WELL NO.: MW2

WELL DIA./MATERIAL: 2"PVC FLUSH MOUNT: ____ ABOVE GRADE: X

TOP OF CASING TO BOTTOM OF WELL: 18.0 FT.

WATER LEVEL BEFORE DEVELOPMENT: 5.9 FT. DATE 4/4/88 TIME 3:10

WATER LEVEL AFTER DEVELOPMENT: 8.6 FT. DATE 4/5/88 TIME 6:00

DATE DEVELOPED: 4/4/88 TIME INTERVAL: 4 hrs.

VALUES OF PARAMETERS AFTER CONSTANT LEVEL OBTAINED:

pH: 7.62 TEMPERATURE: 21.2 °C

CONDUCTIVITY: 5.55 m/cm Ω TURBIDITY: 42 NTU

VOLUME OF WATER REMOVED DURING DEVELOPMENT: 189 GAL.

APPROXIMATE RATE OF WATER REMOVAL: 47 GAL/HR

EQUIPMENT USED DURING DEVELOPMENT:

SURGE BLOCK X PVC HAND PUMP ____ PVC BAILER ____

STAINLESS BAILER ____ RIG PUMP X AIR LIFT ____

SUBMERSIBLE PUMP ____ OTHER: 1/2 hp centrifugal pump (4/5/88)

PHOTO OF WATER? YES X NO ____

RISING HEAD TEST DATA **

DEPTH TO WATER AFTER DRAWDOWN: ____ FT. TIME: ____

DEPTH TO WATER DURING RECOVERY: ____ FT. TIME: ____

DEPTH TO WATER DURING RECOVERY: ____ FT. TIME: ____

EQUIPMENT USED TO PERFORM TEST: ____

PERSONNEL: Monroe/Flair/Heitman

Well passed plumbness test using 1 7/8" OD pipe 4/4/88

* ALL WATER LEVEL MEASUREMENTS FROM TOP OF CASING

** REFER TO IN-SITU PERMEABILITY REPORT.

PROFESSIONAL SERVICE INDUSTRIES, INC.

BORING NO. S51-MW3 PROJECT NO. 342-65219H PROJECT NAME Holloman Air Force Base

DATE/TIME START 3/24/88 7:45 DATE/TIME END 3/24/88 9:00 DRILL CREW Mitchell*, Caho, Flair
* Engineer

DRILLING METHOD: AUGER 0 FT TO 23 FT, ROTARY - FT TO - FT DRILL RIG CME 55

AUGER/BIT SIZE(S) & INTERVAL(S) 3¼ I.D./All SURFACE COVER Gravel

TOC ELEV. 4071.03 BORING COORDINATES N 670484 E 551242 WATER DURING DRILLING 2.5'

WATER AT COMPLETION 2/5' DELAYED WATER LEVEL Monitor well installed in boring

DATE GROUTED N/A MATERIAL(S) & QUANTITY N/A

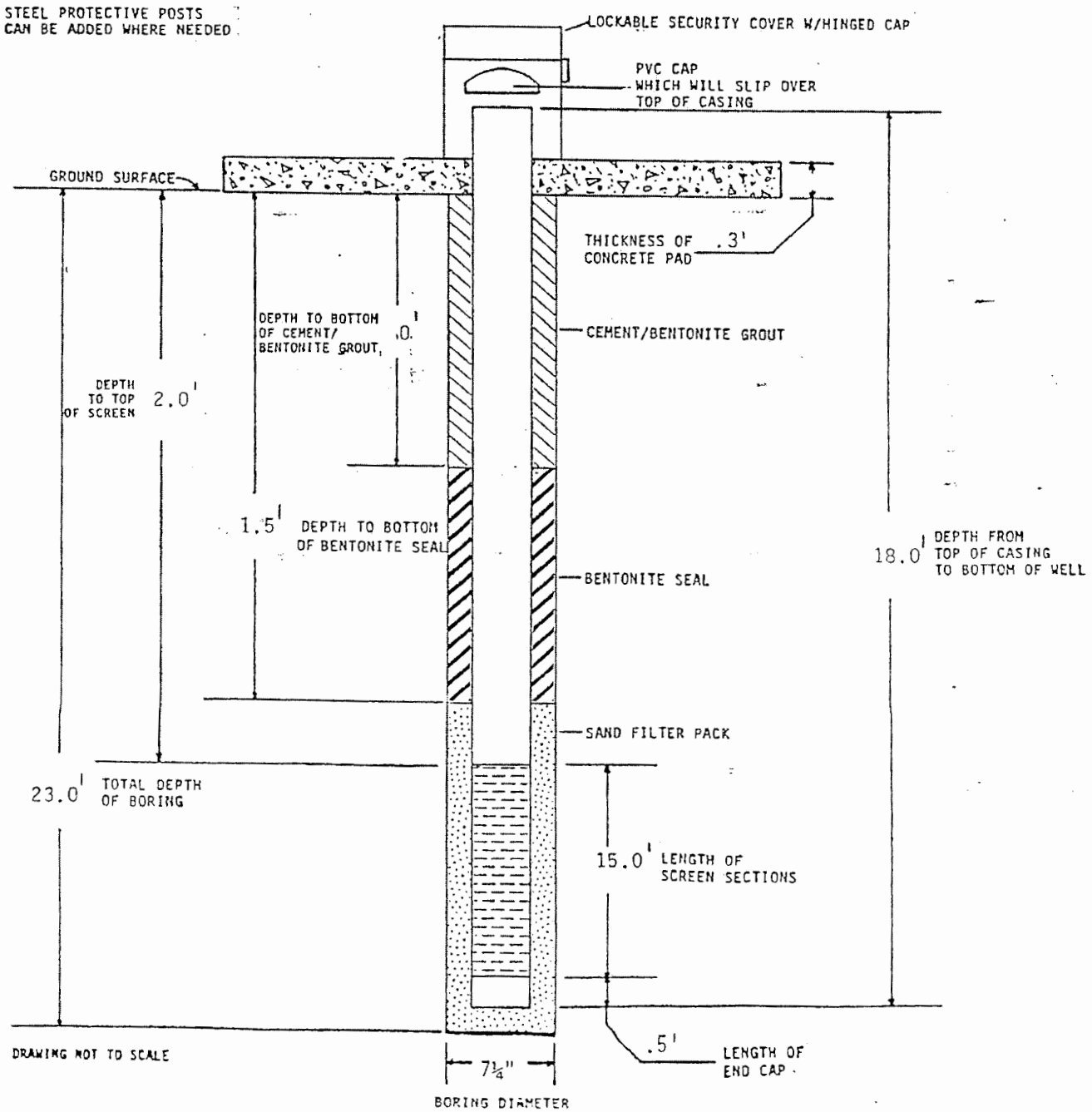
DEPTH FT.	SAMPLE TYPE & INTERVAL	MOISTURE	SOIL DESCRIPTION & VISUAL CLASSIFICATION	SPT	PID (ppm)	HAND PENETROMETER (tsf)	OTHER
	SS	M	Brown silty SAND w/gypsum crystals (SM-SP)	4-7-16	0.9		
	SS	W	Tan clayey sandy SILT (ML)	7-5-7	0.4		
5	SS	W		12-15-13	0.9		LL=37, PI=7 Mc=30
	SS	W	Red-brown silty SAND (SM)	6-14-16	3.0		
10	SS	M/W	Light tan SAND w/gypsum crystals (SP)	9-12-14	2.2		LL=30, PI=7 Mc=28
15	SS	M/W		10-12-40	2.8		
			Tan SAND w/gypsum crystals (SP)				
20							
			Total Depth of Boring = 23.0 feet				
25							

SOIL SAMPLE KEY
SS - SPLIT SPOON
ST - SHELBY TUBE
PB - PITCHER BARREL
RC - ROCK CORE
TC - TWO CONE

MOISTURE KEY
D - DRY (VERY LITTLE MOISTURE)
M - MOIST (SOME MOISTURE)
W - WET (SATURATED)

PROJECT Holloman Air Force Base MONITOR WELL I.D. NO. H-STE-51-MW3

Monitor Well Data Sheet



DEVELOPMENT DATA

PROJECT: Holloman Air Force Base

PROJECT NO.: 342-65219 SITE NO.: 51 MONITOR WELL NO.: MW3

WELL DIA./MATERIAL: 2" PVC FLUSH MOUNT: ____ ABOVE GRADE: X

TOP OF CASING TO BOTTOM OF WELL: 18.0 FT.

WATER LEVEL BEFORE DEVELOPMENT: 5.1 FT. DATE 4/4/88 TIME 2:55

WATER LEVEL AFTER DEVELOPMENT: 6.0 FT. DATE 4/5/88 TIME 6:30

DATE DEVELOPED: 4/4/88 TIME INTERVAL: 4 3/4 hrs

VALUES OF PARAMETERS AFTER CONSTANT LEVEL OBTAINED:

pH: 8.46 TEMPERATURE: 21.1 °C

CONDUCTIVITY: 1415 m/cm-Ω TURBIDITY: 28 NTU

VOLUME OF WATER REMOVED DURING DEVELOPMENT: 636 GAL.

APPROXIMATE RATE OF WATER REMOVAL: 134 GAL/HR

EQUIPMENT USED DURING DEVELOPMENT:

SURGE BLOCK X PVC HAND PUMP ____ PVC BAILER ____

STAINLESS BAILER ____ RIG PUMP X AIR LIFT ____

SUBMERSIBLE PUMP ____ OTHER: 1/2 hp. centrifugal pump (4/4/88)

PHOTO OF WATER? YES ____ NO X

RISING HEAD TEST DATA **

DEPTH TO WATER AFTER DRAWDOWN: ____ FT. TIME: ____

DEPTH TO WATER DURING RECOVERY: ____ FT. TIME: ____

DEPTH TO WATER DURING RECOVERY: ____ FT. TIME: ____

EQUIPMENT USED TO PERFORM TEST: ____

PERSONNEL: Monroe/Flair/Heitman

Well passed plubness test using 1 7/8" OD pipe 4/4/88

* ALL WATER LEVEL MEASUREMENTS FROM TOP OF CASING

** REFER TO IN-SITU PERMEABILITY REPORT.

PROFESSIONAL SERVICE INDUSTRIES, INC.

BORING NO. S51-MW4 PROJECT NO. 342-65219H PROJECT NAME Holloman Air Force Base

DATE/TIME START 3/22/88 8:00 DATE/TIME END 3/22/88 8:45 DRILL CREW Mitchell*, Caho, Flair (*Engineer)

DRILLING METHOD: AUGER 0 FT TO 23 FT, ROTARY - FT TO - FT DRILL RIG CME 55

AUGER/BIT SIZE(S) & INTERVAL(S) 3¼ I.D./All SURFACE COVER Gravel

TOC ELEV. 4070.83 BORING COORDINATES N 670196 E 551088 WATER DURING DRILLING 2.5'

WATER AT COMPLETION 2.5' DELAYED WATER LEVEL Monitor well installed in boring

DATE GROUTED N/A MATERIAL(S) & QUANTITY N/A

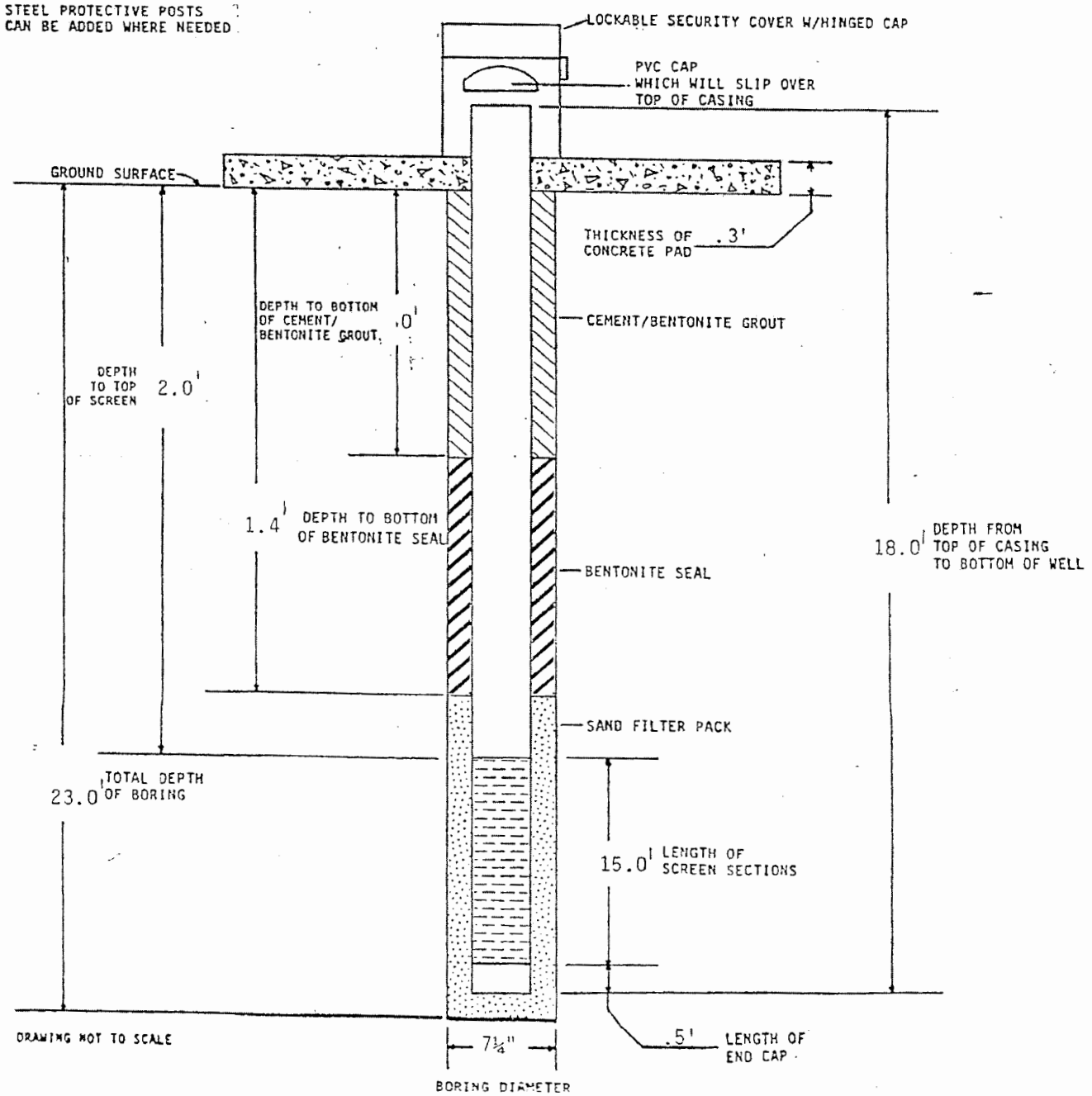
DEPTH FT.	SAMPLE TYPE & INTERVAL	MOISTURE	SOIL DESCRIPTION & VISUAL CLASSIFICATION	SPT	PID (ppm)	HAND PENETROMETER (tsf)	OTHER
	SS	M	Brown SAND (SM-SP)	3-4-11	0.5*		*Background=0
							LL=25,PI=3
	SS	W		5-4-4	0.4		Mc=20
5							
	SS	W		3-4-6	0.4		
	SS	W		7-13-19	0.4		
10	SS	M	Red-brown sandy silty CLAY w/ gypsum crystals (CL)	10-19-26	0.4		LL=29,PI=8
							Mc=18
15	SS	M	Brown, gray silty SAND w/gypsum crystals (SM)	11-29-34	0.4		
20							
25			Total Depth of Boring = 23.0'				

SOIL SAMPLE KEY
SS - SPLIT SPOON
ST - SHELBY TUBE
PB - PITCHER BARREL
RC - ROCK CORE
IC - IND CORE

MOISTURE KEY
D - DRY (VERY LITTLE MOISTURE)
M - MOIST (SOME MOISTURE)
W - WET (SATURATED)

PROJECT Holloman Air Force Base MONITOR WELL I.D. NO. H-STE-51-MW4

Monitor Well Data Sheet



DEVELOPMENT DATA

PROJECT: Holloman Air Force Base

PROJECT NO.: 342-65219 SITE NO.: 51 MONITOR WELL NO.: MW4

WELL DIA./MATERIAL: 2" PVC FLUSH MOUNT: ____ ABOVE GRADE: X

TOP OF CASING TO BOTTOM OF WELL: 18.0 FT.

WATER LEVEL BEFORE DEVELOPMENT: 6.1 FT. DATE 4/4/88 TIME 9:00

WATER LEVEL AFTER DEVELOPMENT: 6.7 FT. DATE 4/4/88 TIME 2:05

DATE DEVELOPED: 4/4/88 TIME INTERVAL: 4 hrs.

VALUES OF PARAMETERS AFTER CONSTANT LEVEL OBTAINED:

pH: 7.88 TEMPERATURE: 23.4 °C

CONDUCTIVITY: < 20 m/cm Ω TURBIDITY: 9.0 NTU

VOLUME OF WATER REMOVED DURING DEVELOPMENT: 527 GAL.

APPROXIMATE RATE OF WATER REMOVAL: 126 GAL/HR

EQUIPMENT USED DURING DEVELOPMENT:

SURGE BLOCK X PVC HAND PUMP ____ PVC BAILER ____

STAINLESS BAILER ____ RIG PUMP X AIR LIFT ____

SUBMERSIBLE PUMP ____ OTHER: ____

PHOTO OF WATER? YES X NO ____

RISING HEAD TEST DATA **

DEPTH TO WATER AFTER DRAWDOWN: ____ FT. TIME: ____

DEPTH TO WATER DURING RECOVERY: ____ FT. TIME: ____

DEPTH TO WATER DURING RECOVERY: ____ FT. TIME: ____

EQUIPMENT USED TO PERFORM TEST: ____

PERSONNEL: Monroe/Flair/Heitman

Well passed plumbness test using 1 7/8" OD pipe 4/4/88

* ALL WATER LEVEL MEASUREMENTS FROM TOP OF CASING

** REFER TO IN-SITU PERMEABILITY REPORT.

PROFESSIONAL SERVICE INDUSTRIES, INC.

BORING NO. S51-MW5 PROJECT NO. 342-65219H PROJECT NAME Holloman Air Force Base

DATE/TIME START 3/22/88 1:00 DATE/TIME END 3/22/88 2:30 DRILL CREW Mitchell*, Caho, Flair (* Engineer)

DRILLING METHOD: AUGER 0 FT TO 23 FT, ROTARY - FT TO - FT DRILL RIG CME 55

AUGER/BIT SIZE(S) & INTERVAL(S) 3¼ I.D./All SURFACE COVER Gravel

TOC ELEV. 4070.19 BORING COORDINATES N 670265 E 551165 WATER DURING DRILLING 2.5'

WATER AT COMPLETION 3.0' DELAYED WATER LEVEL Monitor well installed in boring

DATE GROUTED N/A MATERIAL(S) & QUANTITY N/A

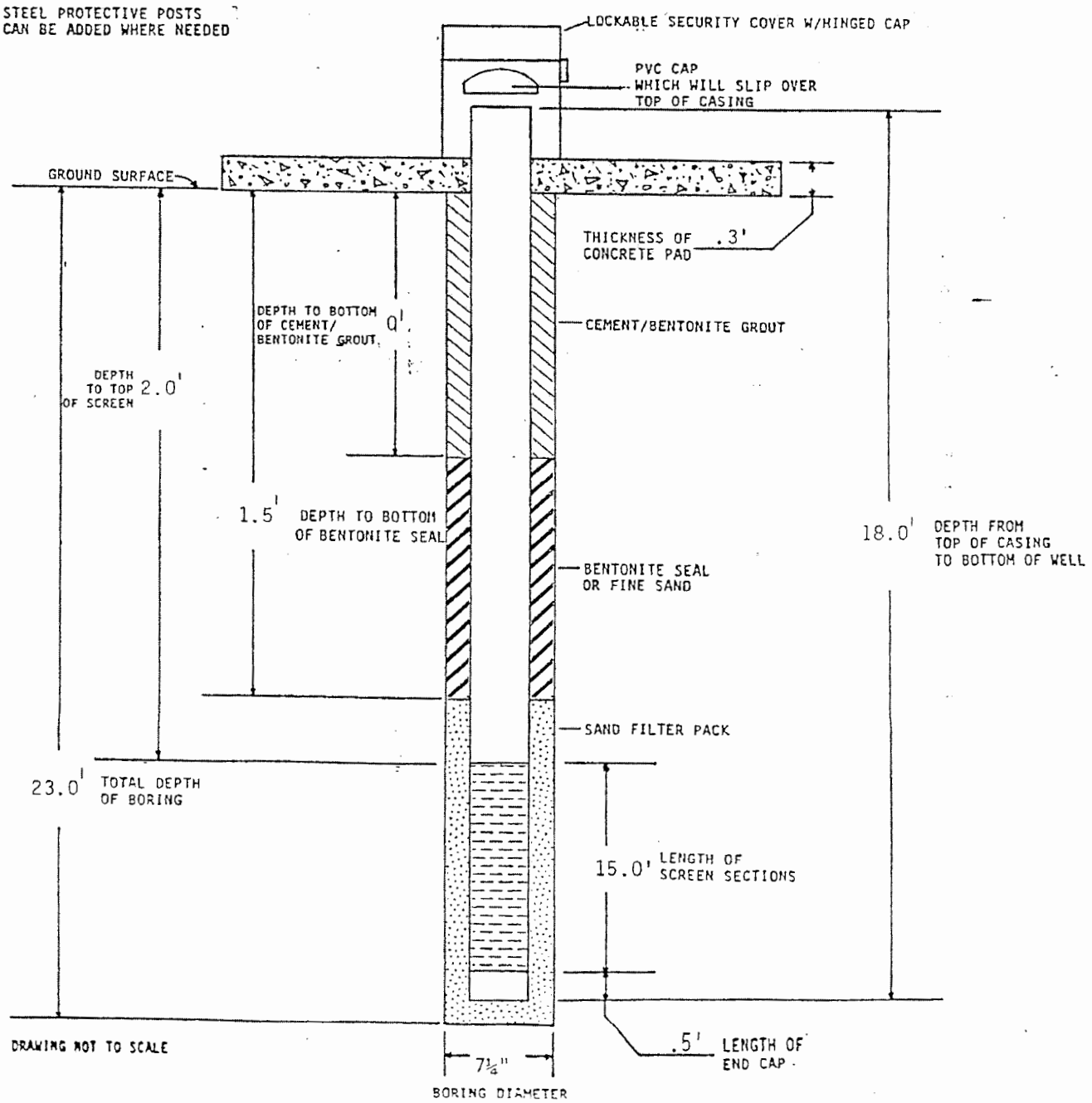
DEPTH FT.	SAMPLE TYPE & INTERVAL	MOISTURE	SOIL DESCRIPTION & VISUAL CLASSIFICATION	SPT	PID (ppm)	HAND PENETROMETER (tsf)	OTHER
	SS	M	Brown silty clayey SAND (SC)	11-6-2	4.0*		*Background=0.0
							LL=26, PI=12
							Mc=12
	SS	W	Light tan SAND (SP)	3-3-3	1.6		
5							
	SS	W	Brown SAND (SP)	2-2-3	0.8		
	SS	M/W	Tan sandy SILT w/ gypsum crystals (SM-SP)	8-11-20	0.4		
10	SS	M/W		8-15-18	0.3		
15	SS	M/W	Brown, gray SAND (SM-SP)	17-36-46	3.8		Nonplastic
							Mc=23
20							
			Total Depth of Boring = 23.0 feet				
25							

SOIL SAMPLE KEY
SS - SPLIT SPOON
ST - SHELBY TUBE
PB - PITCHER BARREL
RC - ROCK CORE
TC - TWO CORE

MOISTURE KEY
D - DRY (VERY LITTLE MOISTURE)
M - MOIST (SOME MOISTURE)
W - WET (SATURATED)

PROJECT Holloman Air Force Base MONITOR WELL I.D. NO. H-STE-51-MW5

Monitor Well Data Sheet



PROFESSIONAL SERVICE INDUSTRIES, INC.

BORING NO. S51-B6 PROJECT NO. 342-65219H PROJECT NAME Holloman Air Force Base

DATE/TIME START 3/27/88 11:00 DATE/TIME END 3/27/88 12:00 DRILL CREW Mitchell, Caho, Flair

DRILLING METHOD: AUGER 0 FT TO 11.5 FT, ROTARY - FT TO - FT DRILL RIG CME 55

AUGER/BIT SIZE(S) & INTERVAL(S) 3¼ I.D./All SURFACE COVER Gravel

G.S. ELEV. - BORING COORDINATES - WATER DURING DRILLING 4.5'

WATER AT COMPLETION 4.5' DELAYED WATER LEVEL Dry prior to grouting

DATE GROUTED 3/28/88 MATERIAL(S) & QUANTITY 1 bag sacrete

DEPTH FT.	SAMPLE TYPE & INTERVAL	MOISTURE	SOIL DESCRIPTION & VISUAL CLASSIFICATION	SPT	PID (ppm)	HAND PENETROMETER (tsf)	OTHER
	SS	M	Light tan sandy SILT w/gypsum crystals (ML)	7-10-14	3.4		
	SS	M/W	Red-brown silty SAND (SM)	2-WH-WH	0.8		
5	SS	W	Gray silty SAND (SM)	WH-1-5	5.7		
	SS	M	Red-brown sandy SILT w/gypsum crystals (ML)	8-21-40	6.5		
10	SS	M/W	Light tan clayey sandy SILT w/ gypsum crystals & iron stains (ML)	8-17-26	3.8		
			Total Depth of Boring = 11.5 feet				
15							
20							
25							

SOIL SAMPLE KEY
SS - SPLIT SPOON
ST - SHELBY TUBE
PB - PITCHER BARREL
RC - ROCK CORE
IC - ENG CORE

MOISTURE KEY
D - DRY (VERY LITTLE MOISTURE)
M - MOIST (SOME MOISTURE)
W - WET (SATURATED)

PROFESSIONAL SERVICE INDUSTRIES, INC.

BORING NO. S-51-MW7 PROJECT NO. 342-65219H PROJECT NAME Holloman Air Force Base

DATE/TIME START 1/22/89 7:30 DATE/TIME END 1/22/89 10:00 DRILL CREW Flair, Monroe*, Arthur *Geologist

DRILLING METHOD: AUGER 0 FT TO 21.5 FT, ROTARY - FT TO - FT DRILL RIG CME55

AUGER/BIT SIZE(S) & INTERVAL(S) 3¼" I.D./ ALL SURFACE COVER Asphalt

T.O.C ELEV. 4069.87 BORING COORDINATES N 670286 E 550961 WATER DURING DRILLING 5'

WATER AT COMPLETION 6' DELAYED WATER LEVEL Water @ 5.0' below TOC 1/29/89 @ 11:15 am Monitor Well Installed in Boring

DATE GROUTED N/A MATERIAL(S) & QUANTITY See Monitor Well Materials List

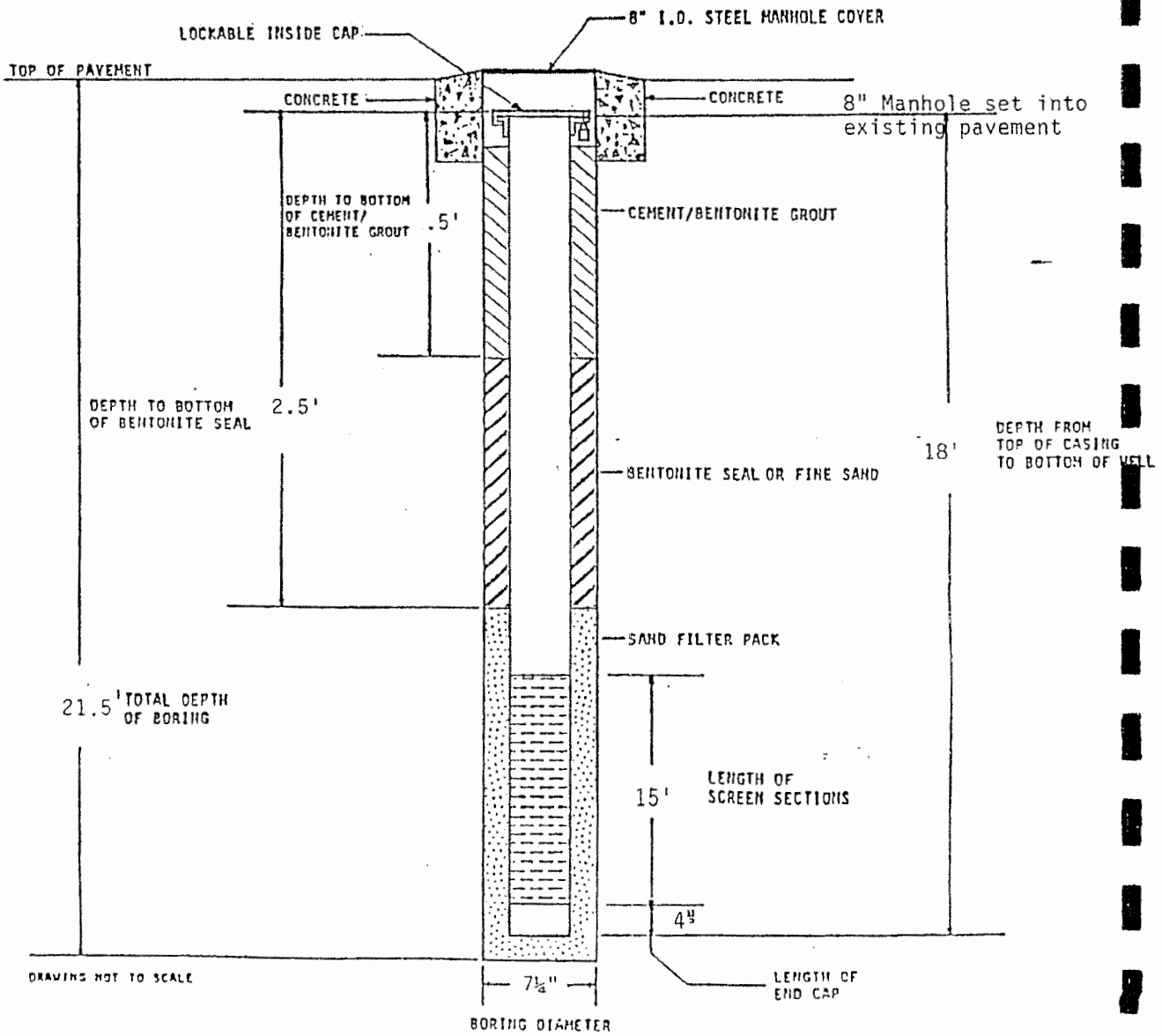
DEPTH FT.	SAMPLE TYPE & INTERVAL	MOISTURE	SOIL DESCRIPTION & VISUAL CLASSIFICATION	SPT	PID (ppm)	HAND PENETROMETER (tsf)	OTHER
	SS	M	Brown sandy GRAVEL (GP)		-		
			Brown clayey silty SAND (SM)	17/17/15			LL=31 PI=3
							Mc=10%
	SS	M/W	Brown sandy silty CLAY (CL)	5/7/17	1		
5			Brown silty sandy CLAY w/gypsum deposits (CL)				
	SS	W		4/5/9	1		Mc=29%
	SS	M		9/15/22	-		LL=40 PI=8
10							Mc=12%
	SS	M	Brown and gray sandy CLAY w/gypsum deposits (CL)	7/14/28	1.0		Mc=16%
15							
	SS	W	Brown silty SAND (SM)	14/29/30	-		Non plastic
							Mc=10%
20							
	SS	M	Brown sandy silty CLAY w/gypsum(CL)	21/44/35=4'	-		Mc=12%
			Boring terminated at 21.5 feet				
25							

SOIL SAMPLE KEY
SS - SPLIT SPOON
ST - SHELBY TUBE
PS - PITCHER BARREL
RC - ROCK CORE
TC - TWO CONE

MOISTURE KEY
D - DRY (VERY LITTLE MOISTURE)
M - MOIST (SOME MOISTURE)
W - WET (SATURATED)

PROJECT Holloman Air Force Base MONITOR WELL I.D. NO. H-51-MW7

Monitor Well Data Sheet



DEVELOPMENT DATA

PROJECT: Holloman Air Force Base

PROJECT NO.: 342-65219H SITE NO.: H-51 MONITOR WELL NO.: MW7

WELL DIA./MATERIAL: 2" PVC FLUSH MOUNT: X ABOVE GRADE: ____

TOP OF CASING TO BOTTOM OF WELL: 18 FT.

WATER LEVEL BEFORE DEVELOPMENT: 5 FT. DATE 1/29/89 TIME 11:15

WATER LEVEL AFTER DEVELOPMENT: 12 FT. DATE 1/29/89 TIME 3:50

DATE DEVELOPED: 1/29/89 TIME INTERVAL: 4¼

VALUES OF PARAMETERS AFTER CONSTANT LEVEL OBTAINED:

pH: 7.50 TEMPERATURE: 25.7 °C

CONDUCTIVITY: 3200 m/cm Ω TURBIDITY: 28 NTU

VOLUME OF WATER REMOVED DURING DEVELOPMENT: 46 GAL.

APPROXIMATE RATE OF WATER REMOVAL: .18 GAL/MIN.

EQUIPMENT USED DURING DEVELOPMENT:

SURGE BLOCK X PVC HAND PUMP ____ PVC BAILER ____

STAINLESS BAILER ____ RIG PUMP ____ AIR LIFT ____

SUBMERSIBLE PUMP ____ OTHER: Gould Centrifugal Pump

PHOTO OF WATER? YES X NO ____

RISING HEAD TEST DATA

DEPTH TO WATER AFTER DRAWDOWN: * FT. TIME: *

DEPTH TO WATER DURING RECOVERY: * FT. TIME: *

DEPTH TO WATER DURING RECOVERY: * FT. TIME: *

EQUIPMENT USED TO PERFORM TEST: Environmental Data Logger (Hermit)

PERSONNEL: Flair/Monroe/Arthur

* Data obtained using Environmental Data Logger; results provided in Insitu Permeability Report.

ALL WATER LEVEL MEASUREMENTS FROM TOP OF CASING

** Conductivity measured on 25% solution by volume.

PROFESSIONAL SERVICE INDUSTRIES, INC.

BORING NO. S-51-MW8 PROJECT NO. 342-65219H PROJECT NAME Holloman Air Force Base

DATE/TIME START 1/20/89 1:15 DATE/TIME END 1/20/89 2:30 DRILL CREW Flair, Monroe*, Arthur *Geologist

DRILLING METHOD: AUGER 0 FT TO 21.5 FT, ROTARY - FT TO - FT DRILL RIG CME55

AUGER/BIT SIZE(S) & INTERVAL(S) 3¼" I.D./ ALL SURFACE COVER Gravel

T.O.C. ELEV. 4070.69 BORING COORDINATES N 670317 E 551069 WATER DURING DRILLING 5'

WATER AT COMPLETION 6' DELAYED WATER LEVEL Water @ 5.5' below TOC on 1/29/89 @ 12:55 am Monitor Well Installed in Boring

DATE GROUTED N/A MATERIAL(S) & QUANTITY See Monitor Well Materials List

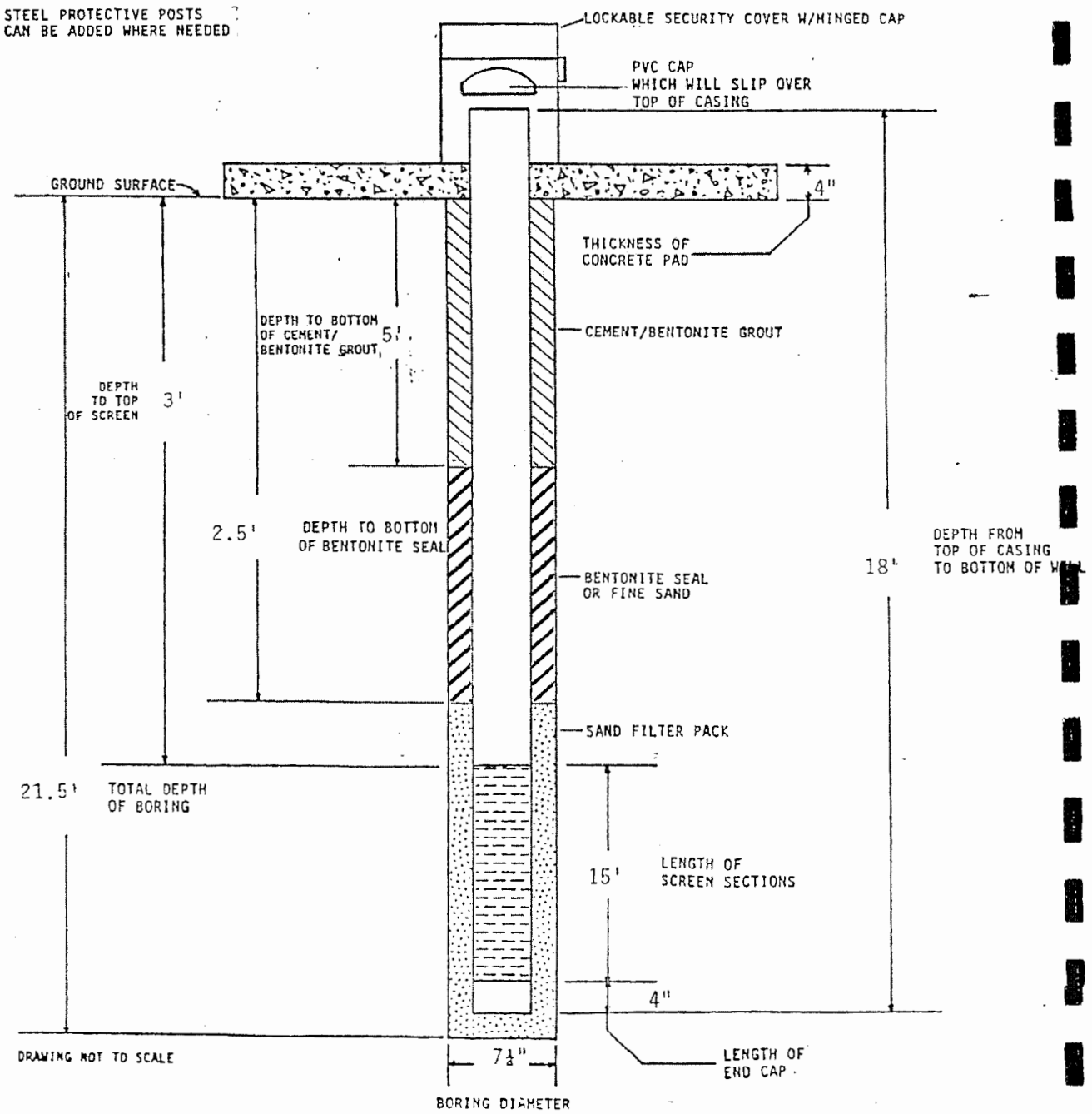
DEPTH FT.	SAMPLE TYPE & INTERVAL	MOISTURE	SOIL DESCRIPTION & VISUAL CLASSIFICATION	SPT	PID (ppm)	HAND PENETROMETER (tsf)	OTHER
	SS	M	Brown silty sandy GRAVEL (GM)	8/31/14	3.5		
			Brown clayey silty SAND (SM)				
	SS	M	Gray silty clayey SAND (SC)	9/21/14	150		
5	SS	W/M		12/31/38	175		50 ppm from bore hole
			Tan silty clayey SAND (SC)				
	SS	M	Brown sandy CLAY w/gypsum deposits (CL)	13/36/29	–		
10	SS	M		8/17/27	–		
15	SS	M	Gray sandy CLAY w/gypsum deposits (CL)	14/21/27	-		
20	SS	M	Tan sandy CLAY w/gypsum deposits (CL)	50/50=3"	-		
			Boring terminated at 21.5 feet				
25							

SOIL SAMPLE KEY
SS - SPLIT SPOON
ST - SHELBY TUBE
PB - PISTON BARREL
RC - ROCK CORE

MOISTURE KEY
D - DRY (VERY LITTLE MOISTURE)
M - MOIST (SOME MOISTURE)
W - WET (SATURATED)

PROJECT Holloman Air Force Base MONITOR WELL I.D. NO. 51-MW8

Monitor Well Data Sheet



MONITOR WELL MATERIAL LIST

PROJECT: Holloman Air Force Base DATE: 1/22/89

PROJECT NO.: 342-65219H SITE NO.: H-51 MONITOR WELL NO.: MW8

MONITOR WELL DIA.: 2 (in) SCREEN OPENING: .010 (in)

SCREEN: SLOTTED X WIRE WOUND ____

BRAND OF PIPE & SCREEN: Monoflex

STARTING AT WELL BOTTOM AND GOING UP

END PLUG LENGTH	4"	PVC	X	STAINLESS	____
SCREEN LENGTH	10'	PVC	X	STAINLESS	____
SCREEN LENGTH	5'	PVC	X	STAINLESS	____
SCREEN LENGTH	____	PVC	____	STAINLESS	____
RISER LENGTH	5'	PVC	X	STAINLESS	____
RISER LENGTH	____	PVC	____	STAINLESS	____
RISER LENGTH	____	PVC	____	STAINLESS	____
RISER LENGTH	____	PVC	____	STAINLESS	____
RISER LENGTH	____	PVC	____	STAINLESS	____
CAP: SLIP X	THREADED ____	PVC	X	STAINLESS	____

DOES WELL CAP LOCK? YES X NO ____

COVER: FLUSH MOUNT ____ ABOVE GRADE X

PADLOCK NO. 2004

SACKS SAND 4 PAILS BENTONITE 1

SACKS CEMENT 1 SACKS BENTONITE 1/4

SACKS VOLCLAY N/A SACKS SACRETE 5

CONCRETE PAD SIZE 3 feet x 3 feet x 4 inches

NO. CENTRALIZERS 1 LOCATION 8 feet from bottom of screen

OTHER Installed 3 protective posts

DEVELOPMENT DATA

PROJECT: Holloman Air Force Base

PROJECT NO.: 342-65219H SITE NO.: H-51 MONITOR WELL NO.: MW-8

WELL DIA./MATERIAL: 2"/PVC FLUSH MOUNT: ____ ABOVE GRADE: X

TOP OF CASING TO BOTTOM OF WELL: 18 FT.

WATER LEVEL BEFORE DEVELOPMENT: 5.5 FT. DATE 1/29/89 TIME 12:55

WATER LEVEL AFTER DEVELOPMENT: 10 FT. DATE 1/29/89 TIME 5:05

DATE DEVELOPED: 1/29/89 TIME INTERVAL: 4 hours

VALUES OF PARAMETERS AFTER CONSTANT LEVEL OBTAINED:

pH: 7.23 TEMPERATURE: 24.6 °C

CONDUCTIVITY: 8860 NAT m/cm Ω TURBIDITY: 100+ NTU

VOLUME OF WATER REMOVED DURING DEVELOPMENT: 60 GAL.

APPROXIMATE RATE OF WATER REMOVAL: 0.25 GAL/MIN.

EQUIPMENT USED DURING DEVELOPMENT:

SURGE BLOCK ____ PVC HAND PUMP ____ PVC BAILER ____

STAINLESS BAILER ____ RIG PUMP ____ AIR LIFT ____

SUBMERSIBLE PUMP ____ OTHER: Homelite Centrifugal Pump

PHOTO OF WATER? YES X NO ____

RISING HEAD TEST DATA

DEPTH TO WATER AFTER DRAWDOWN: * FT. TIME: *

DEPTH TO WATER DURING RECOVERY: * FT. TIME: *

DEPTH TO WATER DURING RECOVERY: * FT. TIME: *

EQUIPMENT USED TO PERFORM TEST: Environmental Data Logger (Hermit)

PERSONNEL: Flair/Monroe/Arthur

*Data obtained with Environmental Data Logger; results provided in In-Situ Permeability Report.

ALL WATER LEVEL MEASUREMENTS FROM TOP OF CASING

Appendix A-2-3

Portions of the *Holloman Air Force Base Alamagordo, New Mexico, Closing Report*

IT Corporation, 1991

HOLLOMAN AIR FORCE BASE
ALAMAGORDO, NEW MEXICO
CLOSING REPORT

CONTRACT NUMBER

DACW45-90-D9002
CONTROL NO. ENGER910020025

PREPARED BY:

IT CORPORATION
336 WEST ANAHEIM STREET
WILMINGTON, CALIFORNIA 90744

6.0 PRELIMINARY SITE INVESTIGATION

6.1 Site 51

A backhoe was dispatched to Site 51 on September 26, 1991, to excavate a 6 foot by 6 foot hole, 15 feet deep, southeast of an existing monitoring well (see Figure 3). Samples were taken and sent to the **IT** Laboratory in Cerritos, California for testing (see Appendix E).

6.2 Holding Cell Construction

IT's project management discussed phase safety plans and tailgate safety procedures. On September 27, 1991, **IT** started the construction of a holding cell to contain the highly contaminated soil to be generated from the various locations, as outlined in the work plan.

7.0 SITE 51

7.1 Excavation

Excavation started at Site 51 after a tailgate safety meeting and phase safety plan review on September 28, 1991 (Figure 3). Approximately 400 cubic yards of soil was removed, and 2000 gallons of groundwater was pumped in the base clarifying system. During the proposal stages, the USACE had received permission from the base to pump all the liquids from the excavation into the base clarifier system. This was revoked September 28, 1991. During the excavation, the project Health and Safety Engineer recorded high readings using the HNU instrument which indicate hydrocarbon vapors. The excavation of this site was completed on approximately October 4, 1991. The Quality Control Daily Reports indicate 3,320 cubic yards of contaminated soil was removed and stockpiled. Approximately 10,000 gallons of waste water was removed and disposed of at local recyclers.

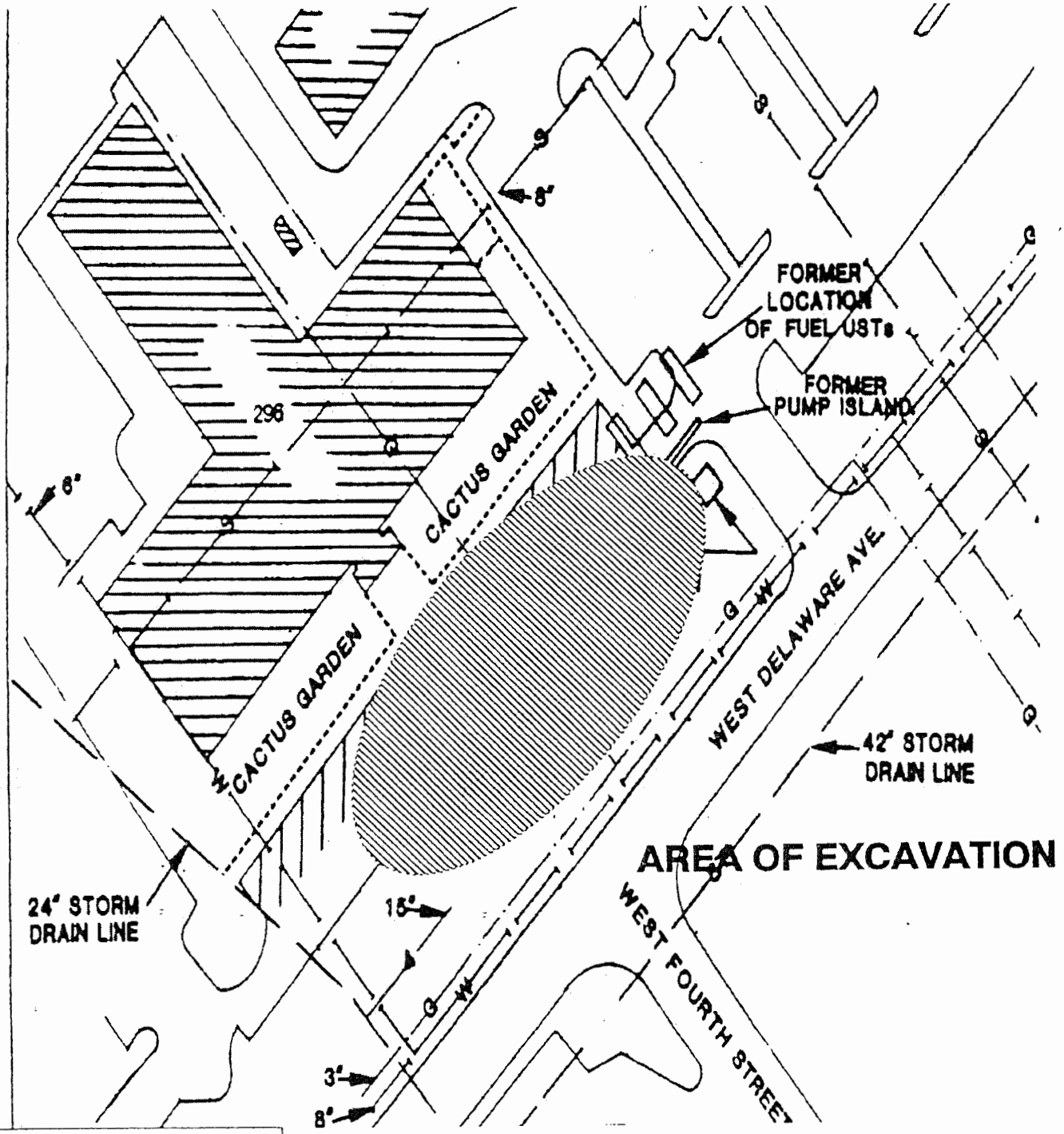
7.2 Backfill

The backfill of Site 45 began on October 10, 1992. The backfill soil was removed from the base spoil pit and transported to Site 45. The backfill of the site was complete on approximately October 16, 1991.

7.3 Landscape

The landscape of Site 45 began on October 10, 1991. Three trees were planted and decorative gravel replaced.

SITE 51



PREPARED BY:
DAVID ERB
NOT TO SCALE

IT CORPORATION

FIGURE #3

Appendix A-2-4

Portions of the *Technical Memorandum Installation Restoration Sites SS-12, SD-27, and OT-45*

Foster Wheeler Environmental Corporation and Radian International LLC, June 1996

DCN 96-670-008-16

TECHNICAL MEMORANDUM

INSTALLATION RESTORATION SITES
SS-12, SD-27, AND OT-45

Prepared for:

49 CES/CEV
Holloman Air Force Base, NM

and

HQ ACC/CEVR
Langley Air Force Base, VA

Prepared by:

Foster Wheeler Environmental Corporation
143 Union Blvd., Suite 1010
Lakewood, Colorado 80203
303/988-2202

Radian International LLC
8501 North Mopac Blvd.
Austin, Texas 78720
512/454-4797

Under Contract No. DACW45-94-D-0003, DO No. 02, WAD 03 with:

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

June 1996

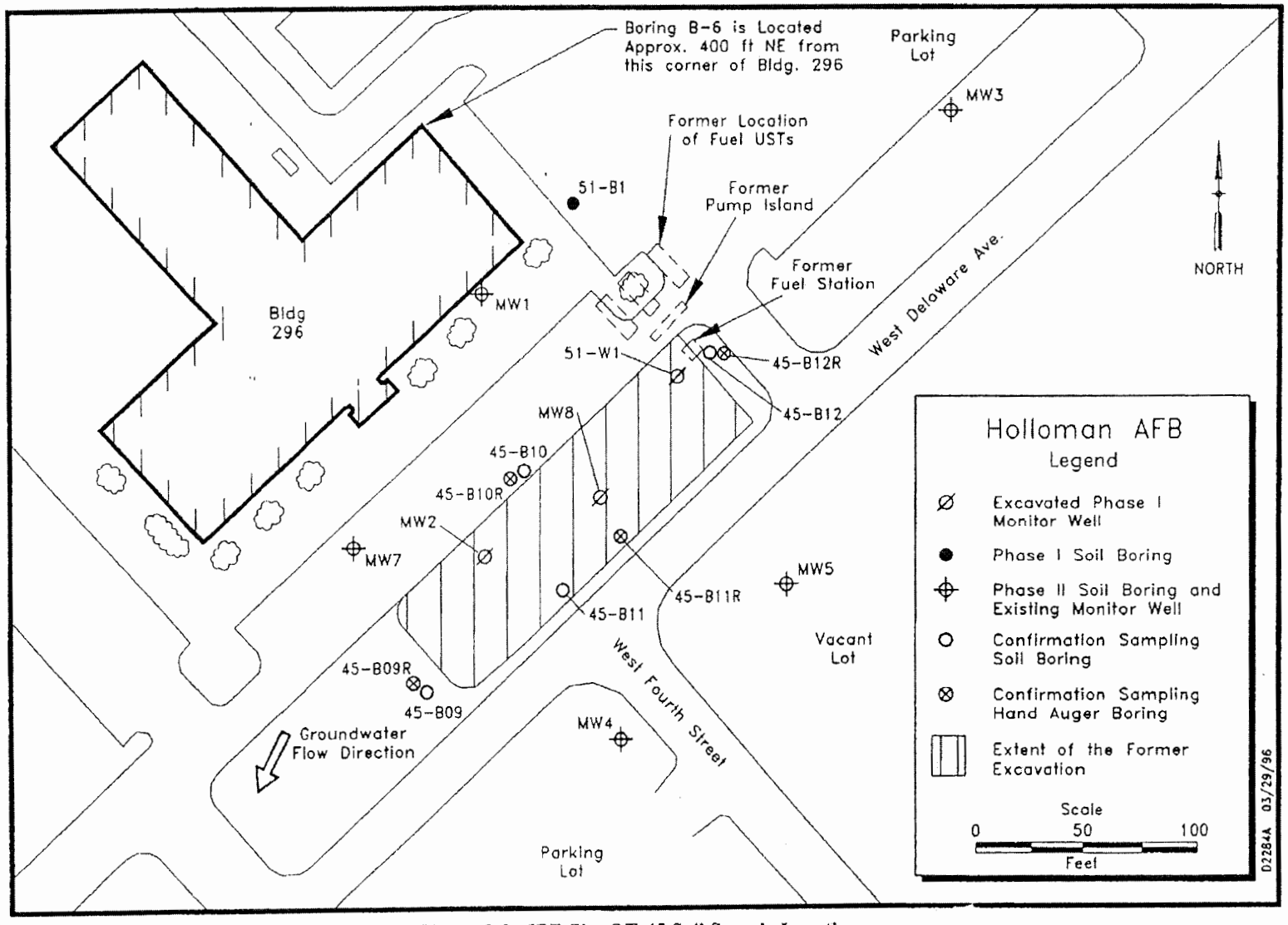


Figure 3-2. IRP Site OT-45 Soil Sample Locations

Table 3-1
Summary of Analytical Results for IRP Site OT-45

Location ID		45-B09	45-B09R	45-B09	45-B09R	45-B10	45-B10R	45-B10	45-B10R
Beginning Depth-End Depth (ft)		1-2.5	1-2.5	3-4.25	3-4.25	1-2.5	1-2.5	3-4.5	3-4.5
SW8015ME (mg/kg)	Diesel Range Organics	6.0 QR	1.1 QRJ (5.4)	ND	2.4 QRJ (5.7)	150 QR	270 QR (4.9)	310 QR	49 QR (5.1)
SW8015MP (mg/kg)	Gasoline Range Organics	1.2 QR	0.39 QJ (0.68)	0.84 QR	0.42 QJ (0.71)	1.5 QR	0.56 QJ (0.61)	750 QR	4.2 Q (0.64)
	Benzene	NA	ND (0.034)	NA	ND (0.035)	NA	ND (0.03)	NA	ND (0.032)
	Ethylbenzene	NA	ND (0.034)	NA	ND (0.035)	NA	0.025 J (0.03)	NA	0.029 J (0.032)
	Toluene	NA	ND (0.034)	NA	ND (0.035)	NA	0.00023 J (0.03)	NA	ND (0.032)
	Total xylenes	NA	ND (0.034)	NA	ND (0.035)	NA	ND (0.03)	NA	ND (0.032)

Location ID		45-B11	45-B11R	45-B11	45-B11R	45-B12	45-B12R	45-B12	45-B12R
Beginning Depth-End Depth (ft)		1-2.5	1-2.5	3-4.25	3-4.25	1-2.5	1-2.5	3-4.5	3-4.5
SW8015ME (mg/kg)	Diesel Range Organics	330 QR (18)	220 QR (4.6)	290 QR (21)	42 QR (4.8)	1200 R (59)	200 QR (5.4)	530 QR (57)	63 QR (5.8)
SW8015MP (mg/kg)	Gasoline Range Organics	1.1 Q (0.58)	0.34 QJ (0.58)	0.80 Q (0.67)	1.1 Q (0.6)	1900 Q (37)	170 M (3.4)	3400 Q (14)	250 M (3.6)
	Benzene	NA	ND (0.029)	NA	ND (0.03)	NA	ND (0.17)	NA	0.23 (0.18)
	Ethylbenzene	NA	ND (0.029)	NA	0.021 J (0.03)	NA	2.0 (0.17)	NA	7.2 (0.18)
	Toluene	NA	ND (0.029)	NA	ND (0.03)	NA	ND (0.17)	NA	ND (0.18)
	Total xylenes	NA	ND (0.029)	NA	ND (0.03)	NA	1.3 (0.17)	NA	3.3 (0.18)

( ) = Detection limit.
J = Estimated concentration; analyte measured below the detection limit.
M = This sample has GC/FID characteristics similar to weathered gasoline.
NA = Not analyzed.
ND = Not detected. No instrument response for analyte or result less than zero.
Q = This sample has GC/FID characteristics for which reliable identification of a product could not be achieved.
R = The diesel range organics are defined further in Table 3-2 of the *Sampling and Quality Control Summary Report (A-E SQCSR) Table 1 Phase II RFI* (Radian and FWEC, 1995).

DRILLING LOG

HOLE NO.	45-B09
SHEET 1 OF 1 SHEETS	
1. COMPANY NAME	Radian Corporation
2. DRILLING SUBCONTRACTOR	Geo-Test, Inc.
3. PROJECT	Holloman AFB Table I Phase II RFI
4. LOCATION	IRP Site 45
5. NAME OF DRILLER	Victor Maldonado
6. MANUFACTURERS DESIGNATION OF DRILL	CME - 55
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	2" x 2" ID Stainless Steel Split Spoon; 7.25" OD Hollow Stem Auger
8. HOLE LOCATION	Easting=550993.24; Northing=670225.69
9. SURFACE ELEVATION	4071.73 ft. MSL
10. DATE STARTED	11-16-94
11. DATE COMPLETED	11-16-94
12. OVERBURDEN THICKNESS	NA
15. DEPTH GROUNDWATER ENCOUNTERED	4.5 ft
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	7 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	None
18. RISK ASSESSMENT SAMPLES	No
SAMPLE ID (S)	
DEPTH	
19. TOTAL NUMBER OF CORE BOXES	NA
20. NUMBER OF SAMPLES FOR CHEMICAL ANALYSIS	2
SW8020	
SW8080	
SW8240	
SW8270	
SW8015ME	2
SW8015MP	2
Metals	
EPA 418.1	
SOP-426	
SOP-427	
21. TOTAL CORE REC.	NA
22. DISPOSITION OF HOLE	Vertical
BACKFILL	Grout
MONITORING WELL	
OTHER (SPECIFY)	
23. SIGNATURE OF INSPECTOR	Carolyn Cooper

ELEV. a	DEPTH b	GRAPHIC LOG c	DESCRIPTION OF MATERIALS d	SPLIT SPOON (ppm) e	HEAD-SPACE (ppm) f	BLOW CNTS g	% REC-OVERY h	ANALYTICAL SAMPLE NO. i
			SILT; Clayey, with trace gravel, very fine to fine-grained, brown (10YR4/3) and very pale brown (10YR8/3), wet, loose, with roots, backfill material, mottled appearance, (ML) (STCL).					
4069.8	2			0	0	3 7 6	80	94-45-B09-01R 930 01/31/95
			SAND; Silty, poorly graded, very fine-grained, pale yellow (2.5Y7/4), moist, medium density, with cemented layers and nodules, sparse ferrous staining; (SM) (SDSL).					
4067.8	4		water at 4.5 ft.	0	0	5 5 9	50	94-45-B09-02R 1000 01/31/95
			SAND; Silty, poorly graded, very fine-grained, pale yellow (2.5Y7/4), wet, medium density, with nodules, sparse ferrous staining, (SM) (SDSL).					
4065.8	6			0	0	8 15 22	60	
			Total Depth = 7 ft.					
4063.8	8							

0 2 4 6 8 10

PROJECT: Holloman AFB Table I Phase II RFI HOLE NO.: 45-B09

DRILLING LOG

HOLE NO. 45-B10

1. COMPANY NAME	Radian Corporation
2. DRILLING SUBCONTRACTOR	Geo-Test, Inc.
SHEET	1 OF 1 SHEETS
3. PROJECT	Holloman AFB Table I Phase II RFI
4. LOCATION	IRP Site 45
5. NAME OF DRILLER	Victor Maldonado
6. MANUFACTURERS DESIGNATION OF DRILL	CME - 55
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	2" x 2" ID Stainless Steel Split Spoon; 7.25" OD Hollow Stem Auger
8. HOLE LOCATION	Easting=551039.17; Northing=670325.73
9. SURFACE ELEVATION	4072.48 ft. MSL
10. DATE STARTED	11-16-94
11. DATE COMPLETED	11-16-94
12. OVERBURDEN THICKNESS	NA
15. DEPTH GROUNDWATER ENCOUNTERED	4.5 ft
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	5.5 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	None
18. RISK ASSESSMENT SAMPLES	No
SAMPLE ID (S)	
DEPTH	
19. TOTAL NUMBER OF CORE BOXES	NA

20. NUMBER OF SAMPLES FOR CHEMICAL ANALYSIS												21. TOTAL CORE REC.
2	SW8020		SW8080		SW8240		SW8270		SW8015ME	2		NA
	SW8015MP	2	Metals		EPA 418.1		SOP-426		SOP-427			

22. DISPOSITION OF HOLE	BACKFILL	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Vertical	Grout			Carolyn Cooper

ELEV. a	DEPTH b	GRAPHIC LOG c	DESCRIPTION OF MATERIALS d	SPLIT SPOON (ppm) e	HEAD-SPACE (ppm) f	BLOW CNTS g	% REC-OVERY h	ANALYTICAL SAMPLE NO. i
			Asphalt					
			Gravel with silty sand. Fill material.					
								94-45-B10-01R 1545 01/31/95
4070.4	2		SAND; Silty, with gravel, poorly graded, very fine-grained, brown (10YR5/3), dry, loose, (SM) (SDSL).	0	0.6	5 2 5	30	
								94-45-B10-02R 1600 01/31/95
4068.4	4		SAND; Silty, poorly graded, very fine-grained, pale red (2.5YR7/4), moist, low to medium density, with cemented layers; water at 4.5 ft, (SM) (SDSL).					
			SAND; Silty, poorly graded, very fine-grained, light gray (10YR7/2), wet, low to medium density, with cemented layers; ft, (SM) (SDSL).	110	136	3 5 3	50	
			Total Depth = 5.5 ft.					
4066.4	6							
4064.4	8							

PROJECT: Holloman AFB Table I Phase II RFI HOLE NO.: 45-B10

DRILLING LOG

HOLE NO.	45-B11
1. COMPANY NAME	Radian Corporation
2. DRILLING SUBCONTRACTOR	Geo-Test, Inc.
SHEET	1 OF 1 SHEETS
3. PROJECT	Holloman AFB Table I Phase II RFI
4. LOCATION	IRP Site 45
5. NAME OF DRILLER	Victor Maldonado
6. MANUFACTURERS DESIGNATION OF DRILL	CME - 55
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	2" x 2" ID Stainless Steel Split Spoon; 7.25" OD Hollow Stem Auger
8. HOLE LOCATION	Easting=551057.60; Northing=670271.28
9. SURFACE ELEVATION	4071.54 ft. MSL
10. DATE STARTED	11-16-94
11. DATE COMPLETED	11-16-94
12. OVERBURDEN THICKNESS	NA
15. DEPTH GROUNDWATER ENCOUNTERED	3.5 ft
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	5 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	None
18. RISK ASSESSMENT SAMPLES	No
SAMPLE ID (S) / DEPTH	
19. TOTAL NUMBER OF CORE BOXES	NA
20. NUMBER OF SAMPLES FOR CHEMICAL ANALYSIS	2
SW8020	
SW8080	
SW8240	
SW8270	
SW8015ME	2
SW8015MP	2
Metals	
EPA 418.1	
SOP-426	
SOP-427	
21. TOTAL CORE REC.	NA
22. DISPOSITION OF HOLE	Vertical
BACKFILL	Grout
MONITORING WELL	
OTHER (SPECIFY)	
23. SIGNATURE OF INSPECTOR	Carolyn Cooper

ELEV. a	DEPTH b	GRAPHIC LOG c	DESCRIPTION OF MATERIALS d	SPLIT SPOON (ppm) e	HEAD-SPACE (ppm) f	BLOW CNTS g	% REC-OVERY h	ANALYTICAL SAMPLE NO. i
			Gravel; Fill material.					
			SILT; Lean, with gravel, very fine-grained, brown (10YR4/3) and very pale brown (10YR8/3), moist, medium density, with roots, backfill material., (ML) (STCL).					
4069.6	2			0	0	5 6 5	80	94-45-B11-01R 1415 01/31/95
			Fibrous material (some kind of liner) with clayey silt, gray, NSI, moist, soft.					94-45-B11-02R 1515 01/31/95
4067.6	4		SAND; Silty, poorly graded, very fine-grained, pale yellow (2.5Y8/3), wet, loose, (SM) (SDSL).	0	0	2 3 3	100	
			Total Depth = 5 ft.					
4065.6	6							
4063.6	8							

PROJECT: Holloman AFB Table I Phase II RFI HOLE NO.: 45-B11

DRILLING LOG

HOLE NO.	45-B12
1. COMPANY NAME	Radian Corporation
2. DRILLING SUBCONTRACTOR	Geo-Test, Inc.
SHEET 1 OF 1 SHEETS	
3. PROJECT	Holloman AFB Table I Phase II RFI
4. LOCATION	IRP Site 45
5. NAME OF DRILLER	Victor Maldonado
6. MANUFACTURERS DESIGNATION OF DRILL	CME - 55
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT	2" x 2" ID Stainless Steel Split Spoon; 7.25" OD Hollow Stem Auger
8. HOLE LOCATION	Easting=551128.19; Northing=670379.23
9. SURFACE ELEVATION	4071.62 ft. MSL
10. DATE STARTED	11-16-94
11. DATE COMPLETED	11-16-94
12. OVERBURDEN THICKNESS	NA
15. DEPTH GROUNDWATER ENCOUNTERED	5 ft
13. DEPTH DRILLED INTO ROCK	NA
16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED	NA
14. TOTAL DEPTH OF HOLE	9 ft
17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY)	None
18. RISK ASSESSMENT SAMPLES	No
SAMPLE ID (S)	
DEPTH	
19. TOTAL NUMBER OF CORE BOXES	NA

20. NUMBER OF SAMPLES FOR CHEMICAL ANALYSIS											21. TOTAL CORE REC.
4	SW8020		SW8080		SW8240		SW8270		SW8015ME	4	NA
	SW8015MP	4	Metals		EPA 418.1		SOP-426		SOP-427		

22. DISPOSITION OF HOLE	BACKFILL	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Vertical	Grout			Carolyn Cooper

ELEV. a	DEPTH b	GRAPHIC LOG c	DESCRIPTION OF MATERIALS d	SPLIT SPOON (ppm) e	HEAD-SPACE (ppm) f	BLOW CNTS g	% REC-OVERY h	ANALYTICAL SAMPLE NO. i
			Gravel					
			SILT; Lean, with gravel, very fine-grained, brown (10YR4/3) and very pale brown (10YR8/3), moist, soft, backfill material, (ML) (STCL).					
4069.6	2		SILT; Lean, with trace gravel, light gray (2.5Y7/1), moist, soft, non-plastic, mottled appearance; water at 5 ft. (ML) (STCL).	106	293	5 5 5	85	94-45-B12-01R 94-45-B12-21R 1200 01/31/95
4067.6	4			168	275	4 5 50	90	94-45-B12-02R 94-45-B12-22R 1245 01/31/95
4065.6	6		SILT; Lean, with trace gravel, light gray (2.5Y7/1), wet, soft, non-plastic, mottled appearance; water ends at 6.5 ft. (ML) (STCL).	82	26	25 40 50	100	
4063.6	8		SAND; Silty, poorly graded, very fine-grained, reddish yellow (7.5YR6/6), moist, very dense, (SM) (SDSL).	0	2			
			Total Depth = 9 ft.					

PROJECT: Holloman AFB Table I Phase II RFI HOLE NO.: 45-B12

APPENDIX B

SOIL BORING LOGS

HTW DRILLING LOG

HOLE NO: OT45-DP 01

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 2 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft lengh; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/4/07 — 11. DATE COMPLETED: 6/4/07
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~ 6.5 ft bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 10 ft. bgs	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 REC %
1	X		SVOCs X	TPH X		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ bentonite chips	X			Jim Moore

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	0-5 ft bgs silty sand (SM) V. f. gr. qtz sand subangular, well sorted soft/loose 1 YR 3/2 V dark gray brown Note gray staining w/ faint Petro odor @ 4-5 ft bgs	0-5 ft = 1.5 ppm				
	1						
	2						
	3						
	4		0				
	5						

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM

HOLE NO.: OT45-DP 01

HTW DRILLING LOG

HOLE NO OT45-DP 01

PROJECT Accelerated Corrective Measures, Holloman AFB, NM

INSPECTOR Jim Moore

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	5-7 ft bgs silty sand (sm) 10YR 7/1 lt. gray w/ Petro odor wet @ 7.	5.10 = 2.5ppm		OT45-DP01-6		(0945)
	6						
	7	7-10 silty sand (sm) v.f. grain qtz w/ minor gypsum caliche. 7.5YR 5/4 brown dry at 8 ft bgs					
	8						
	9						
	10	TD @ 10ft.					

HTW DRILLING LOG

HOLE NO: OT45-DP02

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 2 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft lengh; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/4/07 — 11. DATE COMPLETED: 6/4/07
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~ 6-7 ft bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 10 ft bgs	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 REC %
1 + dupe	X		SVOCs X	X TPH		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ bentonite chips	X			Jim Moore

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	0-2 ft Silty sand (SM) v. f. gr. qtz. v. dark gray brown 10YR 3/2	0-5 ft bgs 152 ppm				
	1	2-3 SAA black faint PCS odor					
	2	3-5 silty sand (SM) stronger petro odor 10YR 6/1 Gray					
	3	damp but not saturated soft					
	4						
	5			Dupe OT45-DP02-5a (1030) OT45-DP02-5 (1030)			

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM — HOLE NO: OT45-DP02

HTW DRILLING LOG

HOLE NO OT45-DP 02

PROJECT Accelerated Corrective Measures, Holloman AFB, NM

INSPECTOR Jim Moore

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
		5-9.5ft bgs silty sand (sm) v.f. gr. qtz, subangular, well sorted, saturated w/ water	8-10 PID - 700 ppm (below water table)				
	6						
	7						
	8	10YR 7/1 gray w/ PCS odor.					
	9	9.5 - 10 silty sand (sm) with caliche					
	10	TD @ 10ft bgs					

PROJECT Accelerated Corrective Measures, Holloman AFB, NM

HOLE NO OT45-DP 02

HTW DRILLING LOG

HOLE NO: OT45-DP03

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 2 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft lengh; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/4/07 — 11. DATE COMPLETED: 6/4/07
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~ 5-6 ft bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 10 ft bgs	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 REC %
1	X		SVOCs X	TPH X		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ bentonite chips	X			Jim Moore — JH Moore

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	0-1 ft bgs - Silty Sand (SM) v. Lgr. qtz subangular well sorted, loose, damp v. dk gray brown 10YR 3/2 No odor	0-5 ft bgs PID = 1242 ppm				
	1						
	2	1-5 ft bgs same as above w/ color change to gray strong petro odor					
	3						
	4						
	5				OT45-DP03-5	(1045)	

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM — HOLE NO. OT45-DP03

HTW DRILLING LOG

HOLE NO. OT45-DP 03

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM

INSPECTOR: Jim Moore

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
		5-9.5 Same as Above but saturated w/ H2O	5-10 PID = 9.4 ppm				
		9.5-10 silty sand w/ caliche mottled reddish w/ white gypsum xtals @ 10 ft					
		TD 10 ft bgs					

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM

HOLE NO. OT45-DP 03

HTW DRILLING LOG

HOLE NO. OT45-DP04

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 1 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft lengh; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/4/07 — 11. DATE COMPLETED: 6/4/07
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~4.5-6 ft bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 7.5 ft.	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 REC %
1	X		SVOCs X	TPH X		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ Bentonite chips	X			Jim Moore — JH Moore

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	0-2 ft bgs silty sand (SM) v. f. gr. qtz subangular, soft no odor	0-5 ft PID = 3292 ppm				
	1	2-5 SAA w/ color change to gray very strong petro odor, getting v. moist @ 5 ft bgs					
	2						
	3						
	4			OT45-DP04-4	(1115)		
	5						

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM — HOLE NO. OT45-DP04

HTW DRILLING LOG

HOLE NO OT45-DP 04

PROJECT Accelerated Corrective Measures, Holloman AFB, NM

INSPECTOR Jim Moore

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	5-7.5 SAA	5-7.5				
		saturated w/ H20	PID = 1783 ppm				
	6	TD @ 7.5 ft bgs					
	7						
	8						
	9						
	10						

HTW DRILLING LOG

HOLE NO. OT45-DP 05

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 1 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft length; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/4/07 — 11. DATE COMPLETED: 6/4/07
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~ 4.5 ft bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 5 ft	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 REC %
1	X		SVOCs X	TPH X		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ bentonite chips	X			Jim Moore

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	0-1.5 ft bgs silty sand (SM) v. f. gr. qtz, subangular soft no odor	0-5 PID = 844 ppm				
	1	1.5-5 SAA w/ strong Petro odor @ 4 ft bgs color change to gray					
	2						
	3						
	4				OT45-DP05-4	(1130)	
	5	TD @ 5 ft					

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM — HOLE NO: OT45-DP

HTW DRILLING LOG

HOLE NO. OT45-DP06

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 1 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft lengh; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/4/07 — 11. DATE COMPLETED: 6/4/07
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~5 ft bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 5 ft	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 %
1	X		SVOC X	TPH X		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ bentonite chips	X			Jim Moore

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	0-3 ft bgs Silty sand (SM) v. f. gr. qtz., subangular well sorted loose, dry 7.5YR 6/4 lt. yellowish brown no odor.	3-5 ft PID = 2514 ppm				
	1						
	2	3-5 same as above but gray 10YR 7/2 sl. moist strong petro odor					
	3	TD @ 5 ft bgs					
	4			OT45-DP06-4 (1300)			
	5						

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM — HOLE NO. OT45-DP06

HTW DRILLING LOG

HOLE NO. OT45-DP 07

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 1 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft lengh; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/4/07 — 11. DATE COMPLETED: 6/4/07
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~ 4.5 ft bgs
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 5 ft 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 %
	X		SVOCs X	TPH X		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ bentonite chips	X			Jim Moore

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	0-1 ft bgs Silty sand (sm) v. f. gr. qtz, subangular, well sorted loose dry 10YR 6/4 lt. yellowish brown no odor	1-5 ft PID = 391 ppm				
	1	1-5 SAA w/ strong petro odor and gray 10YR 7/1 moist at 5 ft. bgs					
	2	TD @ 5-ft					
	3			OT45-DP07-4 (1315)			
	4						
	5						

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM — HOLE NO. OT45-DP 07

HTW DRILLING LOG

HOLE NO. OT45-DP08

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 1 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft lengh; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/14/07 — 11. DATE COMPLETED: 6/14/07
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: 5 ft bgs.	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 REC %
1	X		SVOCs X	TPH X		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ bentonite chips	X			Jim Moore

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	0-2 ft bgs Silty sand (SM) 10YR 6/4 lt. yell brown gray PCS 2mm from 2-3 ft bgs strong Petro odor	3-5 ft PID = 364 ppm				
	1						
	2	TD @ 5 ft					
	3						
	4			OT45-DP08-4			(1330)
	5						

HTW DRILLING LOG

HOLE NO: OT45-DP09

1. COMPANY NAME: Bhate Environmental Associates, Inc.	2. DRILLING CONTRACTOR: ESN
SHEET 1 OF 2 SHEETS	
3. PROJECT: Accelerated Corrective Measures, Holloman AFB, NM	4. LOCATION: OT-45 Old AGE Refueling Station, HAFB, NM
5. NAME OF DRILLER: Chad Grubbs	6. MANUFACTURER'S DESIGNATION OF DRILL: Power Probe 9600 Pro
7. SIZES & TYPES OF DRILLING & SAMPLING EQUIPMENT: 2 1/4-inch OD steel rods 5-ft lengh; 1 1/2-inch OD PVC plastic liners 5-ft length	8. HOLE LOCATION: North East
	9. SURFACE ELEVATION (ft. NGVD)
	10. DATE STARTED: 6/4/07 — 11. DATE COMPLETED: 6/4/07
12. OVERBURDEN THICKNESS: NA	15. DEPTH GROUNDWATER ENCOUNTERED: ~ 3-4 ft bgs close to sewer
13. DEPTH DRILLED INTO ROCK: NA	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED
14. TOTAL DEPTH OF HOLE: 8 ft bgs	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 REC %
1 ft MS/MSD	X		SVOCs X	TPH X		

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
w/ bentonite chips	X			Jim Moore

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	0-2 ft bgs silty sand w/ road base brown no odor	0-5 ft bgs PID = 0.0				
	1						
	2	2-5 silty sand (fine) no odor wet @ 3.5 ft					
	3						
	4				OT45-DP09-4 (1400) OT45-DP09-4 MS (1400) OT45-DP09-4 MSD (1400)		
	5						

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM — HOLE NO: OT45-DP09

HTW DRILLING LOG

HOLE NO. OT45-DP 09

PROJECT: Accelerated Corrective Measures, Holloman AFB, NM

INSPECTOR: Jim Moore

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	5-8 Same as above	5-8 ft bgs				
	6		ND - 0.0 ppm				
	7						
	8	TD @ 8 ft bgs					

APPENDIX C

MONITORING WELL SAMPLE COLLECTION FORMS

MONITORING WELL SAMPLE COLLECTION FORM

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LOCATION	Site:	OT-45	Location ID:	SS1-MW1	Date: 6-4-07
	Project Name:	ACM - HAFB	Project No./Phase:	9050361/03.01	Recorded By: CM
EQUIPMENT	Pump Type/ID#:	Geopump	Water Quality Meter/ID#:	Horiba V22	PID Type/ID#: –
	Water Level Indicator Type/ID#:	Heron	Other Equipment/ID#:	Oakton 700	Decon Method: Liquinox
	Tubing Type/Diameter (in):	3/8	Other Equipment/ID#:		PPE Level: (D) C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC):	6.35	Casing: Type PVC	Diam. (in) 2	Weather: Clear 80
	(B) Total Well Depth (ft BTOC):	17.75	(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 ~~(mL)~~	Pumping Rate (mLpm)	Temp (C)	pH	Cond. (mS/cm)	Dissolved Oxygen (mg/l)	Turbidity (NTU)	Oxidation Reduction Potential (mV)	Remarks (odor, clarity, etc.)
060407	1000	6.35	0	100	22.4	6.87	0.35	8.26	26.8	72	Clear / No Odor
	1010	6.43	1000	100	22.1	7.01	0.34	6.01	17.15	10	" "
	1020	6.47	2000	100	21.7	7.05	0.34	5.47	11.15	-40	" "
	1030	6.47	3000	100	21.6	7.07	0.34	5.01	9.75	-61	" "

Colorimeter Results

Time	Analyte	Dilution	Result	Units

Sample Time
1035

Sample Identification
SS1-MW1

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
1	.5L	Plastic	None	N	160.1	TDS

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 0.5	DO	+/- 0.2
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10
	Cond	+/- 25	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

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LOCATION	Site: OT-45	Location ID: ~~SS1-MW3~~ SS1-MW3		Date: 6-4-07	
	Project Name: ACM - HAFB	Project No./Phase: 9050361/03.01		Recorded By: D. Berry	
EQUIPMENT	Pump Type/ID#: Geo-Pump	Water Quality Meter/ID#: Horiba U-22		PID Type/ID#: N/A	
	Water Level Indicator Type/ID#: Heron Instr.	Other Equipment/ID#: Oakton turbidimeter		Decon Method: DI H_2O + Liquinox	
	Tubing Type/Diameter (in): Polyethylene	Other Equipment/ID#:		PPE Level: D C B A	
WELL INFO	(A) Initial Depth to Water (ft BTOC): 5.17	Casing: Type PVC	Diam. (in) 2	Weather: 90°s	
	(B) Total Well Depth (ft BTOC): 17.79	(E) Casing Volume Multiplier (gal/lin ft): 0.16		Background PID (ppm):	
	(C) Water Column Thickness (ft) (B-A): 12.62	Screen Length (lin ft):		Breathing Zone PID (ppm):	
	(D) Well Volume (gal) (C x E): 2.0	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.)
6-4-07	1000	5.17	Fn. Hy	100	21.5	6.38	38	1.12	5.9	270	Clear, no odor
	1010	5.32	1000		21.2	7.11	41	0	4.2	214	" " "
	1020	5.34	2000		21.3	7.18	43	0	3.8	194	" " "
	1030	5.35	3000		21.3	7.22	40	0	3.6	183	" " "
	1040	5.35	4000		21.4	7.25	39	0	2.9	174	" " "
	1050	5.35	5000	↓	21.3	7.27	37	0	1.8	169	" " "

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units	3	40 ml	VOAs	HCl	N	8260B	VOCs
					2	1 L	Amber	None	N	8270C	SVOC
Sample Time					1	.5L	Plastic	None	N	160.1	TDS
1052											
Sample Identification											
SS1-MW3											

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 0.5	DO	+/- 0.2
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10
	Cond	+/- 25	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

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LOCATION	Site: OT-45	Location ID: SS1-MW4		Date: 6-4-07	
	Project Name: ACM - HAFB	Project No./Phase: 9050361/03.01		Recorded By: D. Berry	
EQUIPMENT	Pump Type/ID#: Geo-Pump	Water Quality Meter/ID#: Horiba U-22		PID Type/ID#:	
	Water Level Indicator Type/ID#: Heron Instrument	Other Equipment/ID#: Dakton Turbidimeter		Decon Method: DI H_2O + hi quinox	
	Tubing Type/Diameter (in): Polyethylene	Other Equipment/ID#:		PPE Level: D C B A	
WELL INFO	(A) Initial Depth to Water (ft BTOC): 6.16	Casing: Type PVC	Diam. (in) 2	Weather: 950	
	(B) Total Well Depth (ft BTOC): 17.84	(E) Casing Volume Multiplier (gal/lin ft): 0.16		Background PID (ppm):	
	(C) Water Column Thickness (ft) (B-A): 11.68	Screen Length (lin ft):		Breathing Zone PID (ppm):	
	(D) Well Volume (gal) (C x E): 1.9	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.)
6-4-07	1115	6.16	Initial	100	23.7	7.69	4.4	1.37	98	223	Cloudy, no odor
	1125	6.23	1000		23.2	7.59	4.2	1.08	31	215	Clear, no odor
	1135	6.24	2000		22.4	7.54	4.7	0.8	28	205	" " "
	1145	6.24	3000		22.3	7.54	6.4	0.6	12	201	" " "
	1155	6.24	4000		22.4	7.54	8.2	0.5	7	201	" " "
	1205	6.24	5000	↓	22.3	7.55	8.8	0.5	6	203	" " "

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units	3	40 ml	VOAs	HCl	N	8260B	VOCs
					2	1 L	Amber	None	N	8270C	SVOC
Sample Time					1	.5L	Plastic	None	N	160.1	TDS
1207											
Sample Identification											
SS1-MW4											

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 0.5	DO	+/- 0.2
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10
	Cond	+/- 25	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

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LOCATION	Site: OT-45	Location ID: SS1-MW5	Date: 6-4-07
	Project Name: ACM - HAFB	Project No./Phase: 9050361/03.01	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Geopump	Water Quality Meter/ID#: Horiba U22	PID Type/ID#: –
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Doktor T100	Decon Method: Liquinox
	Tubing Type/Diameter (in): 3/8	Other Equipment/ID#:	PPE Level: D C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 4.53	Casing: Type PVC Diam. (in) 2	Weather: Sunny 90°
	(B) Total Well Depth (ft BTOC): 7.75	(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.)
060407	1110	4.53	0	150	22.5	6.89	0.36	2.65	40.7	26	Clear / No Odor
	1120	4.58	1500	150	21.9	6.89	0.36	2.34	15.84	-24	" "
	1130	4.58	3000	150	22.3	6.89	0.36	2.37	13.17	-45	" "
	1140	4.58	4500	150	21.8	6.90	0.36	2.35	10.54	-60	" "
	1150	4.58	6000	150	21.9	6.91	0.36	2.27	8.76	-72	" "

Colorimeter Results					No. Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units	3	40 ml	VOAs	HCl	N	8260B	VOCs
					2	1 L	Amber	None	N	8270C	SVOC
Sample Time					1	.5L	Plastic	None	N	160.1	TDS
1155											
Sample Identification											
SS1-MW5											

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 0.5	DO	+/- 0.2
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10
	Cond	+/- 25	ORP	+/- 10

MONITORING WELL SAMPLE COLLECTION FORM

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LOCATION	Site: OT-45	Location ID: SS1-MW7	Date: 6-4-07
	Project Name: ACM - HAFB	Project No./Phase: 9050361/03.01	Recorded By: CM
EQUIPMENT	Pump Type/ID#: Proactive Geopump	Water Quality Meter/ID#: Horiba U22	PID Type/ID#: –
	Water Level Indicator Type/ID#: Heron	Other Equipment/ID#: Oakton T100	Decon Method: Liquinox
	Tubing Type/Diameter (in): 3/8	Other Equipment/ID#:	PPE Level: D C B A
WELL INFO	(A) Initial Depth to Water (ft BTOC): 5.57	Casing: Type PVC Diam. (in) 2	Weather: Clear 95°
	(B) Total Well Depth (ft BTOC): 18.36	(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.)
060407	1540	5.57	0	100	26.1	7.01	1.3	1.28	34.3	22	Clear / No Odor
	1550	5.86	1000	100	25.5	6.99	1.2	1.16	37.8	-41	" "
	1600	5.89	2000	100	25.1	6.96	1.0	1.13	35.3	-61	" "
	1610	5.90	3000	100	24.9	6.94	1.0	1.09	30.0	-67	" "
	1620	5.92	4000	100	24.8	6.93	1.0	1.02	19.18	-65	" "

Colorimeter Results					No./Containers/Volume/Type			Preserv.	Filter (Y/N)	Method	Parameter(s)
Time	Analyte	Dilution	Result	Units	3	40 ml	VOAs	HCl	N	8260B	VOCs
					2	1 L	Amber	None	N	8270C	SVOC
Sample Time					1	.5L	Plastic	None	N	160.1	TDS
1625											
Sample Identification											
SS-MW7-a-MS/MSD											

Conversions	Stabilization Criteria			
1 L = 0.26 gals	Temp	+/- 0.5	DO	+/- 0.2
1 gal = 3.79 L	pH	+/- 0.1	Turb	+/- 10
	Cond	+/- 25	ORP	+/- 10

APPENDIX D

ANALYTICAL DATA PACKAGES

(PROVIDED ON ENCLOSED CD)

APPENDIX E

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 (HAFB), New Mexico, on June 4, 2007. Four aqueous samples and ten soil samples were taken from Site OT-45 during the Accelerated Corrective Measures sampling event for analyses. All analyses were performed by Severn Trent Laboratory (STL)-Denver in Arvada, Colorado. The specific samples included in this validation were:

Sample ID	Matrix	Collection Date	Lab SDG	Analyses (USEPA Method Number)
S51-MW1	Water	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TDS (160.1)
S51-MW3	Water	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TDS (160.1)
S51-MW4	Water	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TDS (160.1)
S51-MW5	Water	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TDS (160.1)
OT45-DP01-6	Soil	6/4/2007	D7F050154	VOCs (SW8260), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015)
OT45-DP02-5	Soil	6/4/2007	D7F050154	VOCs (SW8260), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015)
OT45-DP02-5a	Soil	6/4/2007	D7F050154	VOCs (SW8260), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015)
OT45-DP03-5	Soil	6/4/2007	D7F050154	VOCs (SW8260), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015)
OT45-DP04-4	Soil	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015B)
OT45-DP05-4	Soil	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015B)
OT45-DP06-4	Soil	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015B)
OT45-DP07-4	Soil	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015B)
OT45-DP08-4	Soil	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015B)
OT45-DP09-5	Soil	6/4/2007	D7F050154	VOCs (SW8260B), SVOCs (SW8270C), TPH-GRO, DRO, ORO (SW8015B)

Notes: SDG – Sample Delivery Group, USEPA – U.S. Environmental Protection Agency, VOCs – Volatile Organic Compounds, SVOCs – Semi-volatile Organic Compounds, TDS – Total Dissolved Solids, TPH – Total Petroleum Hydrocarbons, GRO – Gasoline Range Organics, ORO – Oil Range Organics, DRO – Diesel Range Organics

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 Organic Data Review* (USEPA, October 1999), and in conjunction with the Basewide Quality Assurance Project Plan for HAFB.

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 common laboratory contaminant, methylene chloride, was detected in all trip blanks. In the samples where this compound was not detected, no qualification was required. In groundwater samples S51-MW3, S51-MW4, and S51-MW5 the compound was detected at a concentration less than 10x the blank amount, therefore methylene chloride was qualified as estimated "J" in these samples.

Naphthalene was detected in the method blank associated with samples OT45-DP01-6 and OT45-DP09-5. The naphthalene concentration was less than 5x the blank amount in sample OT45-DP01-6 only and was qualified as estimated "J".

Volatiles n-butylbenzene and 1,2,4-trimethylbenzene were detected in the method blank associated with samples S51-MW1, S51-MW3, S51-MW4, and S51-MW5. These compounds were not detected in these samples and no qualification was required. The semi-volatile compounds bis(2-ethylhexyl)phthalate was also detected in the method blank associated with the four groundwater samples. This compound was less than 5x the blank concentration in samples S51-MW1 and S51-MW3 and was qualified as estimated, "J".

TPH-DRO was detected in the method blank associated with all 10 soil samples. Only samples OT45-DP01-6, OT45-DP02-5a, and OT45-DP09-5 had concentrations less than 5x the blank concentration. Therefore, these samples were qualified as estimated, "J".

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

The laboratory control sample (LCS) recovery for 2-pentanone associated with samples S51-MW1, S51-MW3, S51-MW4, and S51-MW5 was above the QC limits. The duplicate (LCSD) recovery for sec-butylbenzene associated with all soil samples, except OT45-DP01-6 and OT45-DP09-5, was above QC limits. These compounds were not detected in the subsequent samples with the exception of sec-butylbenzene in sample OT45-DP06-4. This positive result was qualified as estimated, "J".

The semi-volatile LCS recovery for bis(2-chloroisopropyl)ether was above QC limits. This compound was not detected in the associated samples and no qualification was required.

The SVOC surrogate recovery for 2-flurobiphenyl in samples S51-MW3, S51-MW4, and S51-MW5 was less than QC limits. Since the other SVOC surrogates were within QC limits no qualification of the data was required.

The original analysis of sample OT45-DP09-5 yielded low surrogate recoveries for 2-fluorophenol and nitrobenzene-d5. This sample was re-run with these surrogates within QC limits. Therefore, no qualification was required.

The semi-volatile matrix spike/matrix spike duplicate (MS/MSD) surrogate recovery for d14-terphenyl was below QC limits. This surrogate was within limits for the associated samples and no qualification was required.

The TPH-GRO surrogate, a,a,a-trifluorotoluene, was above the QC limits for sample OT45-DP02-5 most likely due to matrix interference. This compound was qualified as estimated, "J".

The TPH-DRO and -ORO surrogate, o-terphenyl, in sample OT45-DP06-4 was below the QC limits due to matrix interference. The positive result for TPH-DRO was qualified as estimated, "J" and the non-detected result for TPH-ORO was qualified estimated non-detected, "UJ".

Due to the high concentration of target compounds, a dilution was applied which caused the surrogates to be diluted out of samples OT45-DP02-5a, OT45-DP03-5, OT45-DP04-4, OT45-DP05-4, and OT45-DP07-4 for the VOC analysis; samples OT45-DP04-4 and OT45-DP06-4 for SVOC analysis; and samples OT45-DP03-5, OT45-DP04-4, OT45-DP05-4, OT45-DP06-4, OT45-DP07-4, and OT45-DP08-4 for the TPH-GRO analysis.

Matrix Spike/Matrix Spike Duplicates (MS/MSD)

The volatile MS and/or MSD recoveries for ethylbenzene, 1,2,4-trimethylbenzene, n-propylbenzene, carbon disulfide, naphthalene, and vinyl acetate were below QC limits associated with samples OT45-DP01-6 and OT45-DP09-5. The recoveries for acetone, n-butylbenzene, sec-butylbenzene, 1,3,5-trimethylbenzene, 4-isopropyltoluene, and methyl tert-butyl ether were below QC limits associated with the four groundwater samples.

The semi-volatile MS and/or MSD recovery for 3,3'-dichlorobenzidine was below QC limits associated with the four groundwater samples. The relative percent difference (RPD) for benzo(k)fluoranthene was above QC limits along with the MSD recovery being below QC limits for n-nitrosodiphenylamine in samples OT45-DP02-5, OT45-DP04-4, OT45-DP05-4, OT45-DP06-4, OT45-DP07-4, OT45-DP08-4, and OT45-DP09-5. Finally, the MSD recovery for bis(2-chloroisopropyl)ether was above QC limits associated with samples OT45-DP01-6, OT45-DP02-5a, OT45-DP03-5, and OT45-DP09-5.

No action is taken on MS/MSD data alone. Therefore, these compounds were cross referenced with the associated LCSs which were within QC limits with the exception of bis(2-chloroisopropyl)ether. This compound was not detected in the associated samples and no qualification was required.

Project Specific Quality Assurance/Quality Control

One field duplicate sample was submitted as part of this sampling event.

Compound Quantitation and Reporting Limits

Due to high concentrations of target compounds, the following dilutions were required to quantify the data: samples OT45-DP02-5a, OT45-DP03-5, OT45-DP04-4, OT45-DP05-4, and OT45-DP07-4 for the VOC analysis; samples OT45-DP04-4 and OT45-DP06-4 for SVOC analysis; samples OT45-DP03-5, OT45-DP04-4, OT45-DP05-4, OT45-DP06-4, OT45-DP07-4, and OT45-DP08-4 for the TPH-GRO analysis; samples OT45-DP04-4 and OT45-DP06-4 for TPH-DRO and -ORO analysis; and samples S51-MW3 and S51-MW4 for the TDS analysis. The reporting limits have been adjusted accordingly.

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. The data is 100% complete.

Summary of Qualified Data

Sample ID	Parameter	Qualifier
S51-MW1	bis(2-Ethylhexyl)phthalate	3.0 J µg/L
S51-MW3	Methylene chloride bis(2-Ethylhexyl)phthalate	0.35 J µg/L 2.6 J µg/L
S51-MW4	Methylene chloride	0.39 J µg/L
S51-MW5	Methylene chloride	0.49 J µg/L
OT45-DP01-6	Naphthalene TPH-DRO	0.98 J µg/kg 2.4 J mg/kg
OT45-DP02-5	TPH-GRO	130 J mg/kg
OT45-DP02-5a	TPH-DRO	2.4 J mg/kg
OT45-DP06-4	TPH-DRO TPH-ORO sec-Butylbenzene	1,100 J mg/kg UJ mg/kg 1,500 J µg/kg
OT45-DP09-5	TPH-DRO	2.3 J mg/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 (HAFB), New Mexico, on June 4-5, 2007. Five aqueous samples and fourteen soil samples were taken from sites OT-38, SS-18, and OT-45 during the Accelerated Corrective Measures sampling event. All analyses were performed by Severn Trent Laboratory (STL)-Denver, in Arvada, Colorado. The specific samples included in this validation were:

Sample ID	Matrix	Collection Date	Analyses (USEPA Method Number)
MW38-01	Water	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), PCBs (SW8082), RCRA Metals (SW6010B/7470A), Perchlorate (SW6860), TDS (160.1)
MW38-01a	Water	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), PCBs (SW8082), RCRA Metals (SW6010B/7470A), Perchlorate (SW6860), TDS (160.1)
MW38-02	Water	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), PCBs (SW8082), RCRA Metals (SW6010B/7470A), Perchlorate (SW6860), TDS (160.1)
S51-MW7	Water	6/4/07	VOCs (SW8260B), SVOCs (SW8270C), TDS (160.1)
S51-MW7a	Water	6/4/07	VOCs (SW8260B), SVOCs (SW8270C), TDS (160.1)
SS18-DP01-4	Soil	6/4/07	VOCs (SW8260B), SVOCs (SW8270C), TAL Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), Hex Cr (SW7196A)
SS18-DP01-4a	Soil	6/4/07	VOCs (SW8260B), SVOCs (SW8270C), TAL Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), Hex Cr (SW7196A)
SS18-DP02-3	Soil	6/4/07	VOCs (SW8260B), SVOCs (SW8270C), TAL Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), Hex Cr (SW7196A)
SS18-DP03-3	Soil	6/4/07	VOCs (SW8260B), SVOCs (SW8270C), TAL Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), Hex Cr (SW7196A)
OT38-DP02-23	Soil	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)
OT38-DP03-5	Soil	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)
OT38-DP03-10	Soil	6/5/07	VOCs (SW8260B)

Sample ID	Matrix	Collection Date	Analyses (USEPA Method Number)
OT38-DP03-23	Soil	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)
OT38-DP01-5	Soil	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)
OT38-DP01-10	Soil	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)
OT38-DP01-23	Soil	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)
OT38-DP02-5	Soil	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)
OT38-DP02-10	Soil	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)
OT38-DP02-10a	Water	6/5/07	VOCs (SW8260B), SVOCs (SW8270C), RCRA Metals (SW6010B/7471A), TPH-GRO, DRO, ORO (SW8015B), PCBs (SW8082)

Notes: SDG – Sample Delivery Group, USEPA – U.S. Environmental Protection Agency, VOCs – Volatile Organic Compounds, SVOCs – Semi-volatile Organic Compounds, PCBs – Polychlorinated Biphenyls, RCRA – Resource Conservation and Recovery Act, TAL – Target Analyte List, Hex Cr – Hexavalent Chromium, TDS – Total Dissolved Solids, TPH – Total Petroleum Hydrocarbons, GRO – Gasoline Range Organics, ORO – Oil Range Organics, DRO – Diesel Range Organics

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 Organic Data Review* (USEPA, October 1999), and in the *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, October 2004) (NFG), and in conjunction with the Basewide Quality Assurance Project Plan for HAFB.

Sample Handling and Holding Times

All samples were properly preserved and transferred under chain-of-custody to the laboratory for analysis, and all samples were initially analyzed within the required holding time.

Sample OT38-DP03-10 arrived with only three Encore containers. The analysis for SVOCs, PCBs, Metals, and TPH were not performed. This sample was re-collected and analyzed at a later date.

Blanks

No target compounds or anions were detected in the trip blank.

The laboratory method blanks were correctly batched with the corresponding field samples. For the VOC analysis, naphthalene, hexachlorobutadiene, 4-isopropyltoluene, and 1,2,3-trichlorobenzene were detected in the method blank associated with samples SS18-DP01-4, SS18-DP01-4a, SS18-DP02-3, SS18-DP03-3, OT38-DP02-23, OT38-DP03-5, OT38-DP03-23, OT38-DP01-5, OT38-DP01-10, OT38-DP01-23, OT38-DP02-5, OT38-DP02-10, and OT38-DP02-10a. TPH-GRO, TPH-DRO, calcium, sodium, and zinc were also detected in the method blanks associated with these samples. Those compounds with positive results were qualified as estimated, "J" (see the Summary of Qualified Data Table at the end of this report).

Hexavalent chromium was detected in the method blank associated with sample SS18-DP01-4, SS18-DP01-4a, SS18-DP02-3, and SS18-DP03-3. The positive results were qualified as estimated, "J".

Blank Spike Sample (Laboratory Control Sample)/ Surrogates

All laboratory control sample (LCS) results met the QC requirements for the percent recoveries (%Rs) for all analysis.

The semi-volatile surrogates 2,4,6-tribromophenol and terphenyl-d14 in sample SS18-DP01-4a had recoveries below QC limits. This sample was re-run one day beyond holding time and all surrogates were within control limits. All compounds were non-detected and were qualified as estimated non-detected, "UJ".

The PCB surrogates decachlorobiphenyl and tetrachloro-m-xylene yielded recoveries below QC limits for sample OT38-DP02-23 . This sample was not re-run and the results were qualified as estimated non-detected, "UJ".

Matrix Spike/Matrix Spike Duplicates (MS/MSD)

The volatile MS and/or MSD recoveries for 1,3-dichlorobenzene, 1,4-dichlorobenzene, ethylbenzene, 1,2,4-trichlorobenzene, xylenes (total), n-butylbenzene, sec-butylbenzene, isopropylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, n-propylbenzene, tert-butylbenzene, 2-chlorotoluene, 4-chlorotoluene, 1,1-dichloropropene, hexachlorobutadiene, 4-isopropyltoluene, 1,2,3-trichlorobenzene, m&p-xylenes, and o-xylene were outside QC limits associated with samples SS18-DP01-4, SS18-DP01-4a, SS18-DP02-3, SS18-DP03-3, OT38-DP02-23, OT38-DP03-5, OT38-DP03-23, OT38-DP01-5, OT38-DP01-10, OT38-DP01-23, OT38-DP02-5, OT38-DP02-10, and OT38-DP02-10a. The prep batch associated with the five aqueous samples yielded 1,1-dichloroethane, 1,2-dichloroethane, styrene, methyl tert-butyl ether, vinyl acetate, and 2-pentanone outside QC limits for the MS and/or MSD recoveries. The RPD was outside QC limits for 1,2-dibromoethane, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 2-hexanone, 4-methyl-2-pentanone, 1,2,4-trichlorobenzene, n-butylbenzene, sec-butylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, n-propylbenzene, tert-butylbenzene, 2-chlorotoluene, 4-chlorotoluene, and 4-isopropyltoluene in this same QC batch.

The semi-volatile MS/MSD analysis yielded n-nitrosodiphenylamine below QC limits for the MSD recovery associated with samples SS18-DP01-4, SS18-DP01-4a, SS18-DP02-3, SS18-DP03-3, OT38-DP02-23, OT38-DP03-5, OT38-DP03-23, OT38-DP01-5, OT38-DP01-10, OT38-DP01-23, and OT38-DP02-5. 4-Chloroaniline, 3,3'-dichlorobenzidine, n-nitrosodiphenylamine, and aniline exhibited MS/MSD and/or RPD recoveries outside QC limits for the five aqueous samples.

The MS/MSD recoveries for Aroclor 1016 were below QC limits associated with samples OT38-DP02-23, OT38-DP03-5, OT38-DP03-23, OT38-DP01-5, OT38-DP01-10, OT38-DP01-23, OT38-DP02-5, OT38-DP02-10, and OT38-DP02-10a.

The MSD recovery for perchlorate was above QC limits associated with samples MW38-01, MW38-01a, and MW38-02.

The MS and/or MSD recoveries for thallium and mercury were below QC limits relating to all soil samples except OT38-DP03-10.

The MS/MSD recoveries were not calculated for calcium, aluminum, and iron due to high sample concentration compared to the spike amount. Control limits are not applicable when the target analytes concentration in the native sample exceeds the spiked concentration by a factor of four or more.

No action is taken on MS/MSD data alone. The MS/MSDs were cross referenced with the associated LCS, which were in control, and no qualification of the sample data was required.

Project Specific Quality Assurance/Quality Control

Four field duplicate samples were collected and reported with this SDG.

The continuing calibration verification (CCV) standards yielded a percent difference (%D) outside QC limits for TPH-DRO. The data may be bias high and all results greater than the method detection limit (MDL) were qualified as estimated, "J".

The sample duplicate RPD for Hexavalent Chromium exceeded QC limits. The positive results were qualified as estimated, "J" and the non-detected result was qualified as estimated non-detected, "UJ".

Compound Quantitation and Reporting Limits

The perchlorate analysis required a dilution due to interferences. The samples MW38-01, MW38-01a, and MW38-02 reported elevated reporting limits.

The TDS analysis required a dilution due to high analyte concentrations. 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
SS18-DP01-4	Hexachlorobutadiene	0.87 J
	Naphthalene	1.4 J
	TPH-GRO	1.0 J
	TPH-DRO	2.3 J
	Calcium	150,000 J
	Sodium	220 J
	Zinc	8.0 J
	Hexavalent Cr	0.042 J
SS18-DP01-4a	All SVOCs	UJ
	Naphthalene	1.0 J
	TPH-GRO	1.2 J
	TPH-DRO	2.5 J
	Calcium	210,000 J
	Sodium	230 J
	Zinc	4.6 J
	Hexavalent Cr	0.033 J
SS18-DP02-3	TPH-GRO	1.7 J
	TPH-DRO	2.3 J
	Calcium	180,000 J
	Sodium	380 J
	Zinc	9.0 J
	Hexavalent Cr	UJ
SS18-DP03-3	TPH-GRO	1.0 J
	TPH-DRO	5.5 J
	Calcium	140,000 J
	Sodium	540 J
	Zinc	24 J
	Hexavalent Cr	0.027 J
OT38-DP01-5	Hexachlorobutadiene	0.73 J
	1,2,3-Trichlorobenzene	1.2 J
	Naphthalene	1.5 J
	TPH-GRO	0.73 J
	TPH-DRO	2.1 J
OT38-DP01-10	Naphthalene	0.86 J
	TPH-GRO	0.99 J
	TPH-DRO	2.2 J
OT38-DP02-23	Aroclor 1016	UJ
	Aroclor 1221	UJ
	Aroclor 1232	UJ
	Aroclor 1242	UJ
	Aroclor 1248	UJ
	Aroclor 1254	UJ
	Aroclor 1260	UJ
	TPH-GRO	0.96 J
	TPH-DRO	2.4 J
OT38-DP03-5	TPH-GRO	1.3 J
	TPH-DRO	2.0 J
OT38-DP03-23	TPH-GRO	1.3 J
	TPH-DRO	2.2 J
OT38-DP01-23	TPH-GRO	1.0 J
	TPH-DRO	2.1 J
OT38-DP02-5	TPH-GRO	0.81 J
	TPH-DRO	2.0 J
OT38-DP02-10	TPH-GRO	1.2 J
	TPH-DRO	2.5 J
OT38-DP02-10a	TPH-GRO	0.87 J
	TPH-DRO	2.0 J

*Metals and TPH are in milligrams per kilogram (mg/kg)

*VOCs/SVOCs/PCBs are in micrograms per kilogram (µg/kg)

APPENDIX F

WASTE MANIFESTS AND TRUCK LOGS

OT-03 Waste Manifest (Rhino)

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: NM6572124422 | Manifest Doc. No.: 1003-01 | 2. Page 1 of 1 | OT-03

3. Generator's Name and Mailing Address: 49CES/CEV, Highway 70, Holloman AFB, NM 88330

4. Generator's Phone: 505-572-3931

5. Transporter 1 Company Name: D&J Trucking | 6. US EPA ID Number: NA | A. Transporter 1 Phone: 505-430-2455

7. Transporter 2 Company Name: N/A | 8. US EPA ID Number: NA | B. Transporter 2 Phone: NA

9. Designated Facility Name and Site Address: Rhinos DP 1051, 1.7 mls N of NM/Tx State Ln, Hwy 54, OTERO County NM | 10. US EPA ID Number: NA | C. Facility's Phone: (915) 886-4355, (800) 762-0241

11. Waste Shipping Name and Description

	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non-Hazardous Hydrocarbon Impacted Soil	1	Dump	25	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

Non-RCRA, Non-Hazardous PCS,

15. Special Handling Instructions and Additional Information

CELL B

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name, and are classified, packed, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Printed/Typed Name: BENITO AVALOS | Signature: [signature] | Month 10 Day 04 Year 07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Robert Sanchez | Signature: [signature] | Month 10 Day 4 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 — TRANSPORTER — FACILITY

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

12-BLS-C5 Rev. 12/98

ORIGINAL – RETURN TO GENERATOR

OT-45 Waste Manifests (Rhino)

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-001

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services Inc PO Box 310, Canutillo TX 79835 - (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell. M Non-Hazardous Gasoline Diesel Jet Fuel Impacted Soil

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Harkell
Signature: Deborah J Harkell
Month 02 Day 07 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza
Truck # 524
Signature: Gustavo Esparza
Month 02 Day 07 Year 08

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 7 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-002

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services, Inc. PO Box 310, Canutillo, TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Non-Hazardous Gasoline, Diesel, Jet Fuel Impacted Soil

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell Signature: Deborah J Hartell Month 2 Day 7 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivera Truck # 525 Signature: Month 2 Day 7 Year 08

Transporter 2 Printed/Typed Name Signature Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza Signature: Month 2 Day 7 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-003

GENERATOR

Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services, Inc. PO Box 310 Canutillo TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Non-Hazardous Gasoline, Diesel, Jet Fuel Impacted Soil

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 7 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rios — Truck # 525 — Signature — Month 2 Day 7 Year 07

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature — Month 2 Day 7 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-004

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Non-Hazardous Gasoline, Diesel, Jet Fuel Impacted Soil

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 02 Day 07 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza — Truck #: 524 — Signature: Gustavo Esparza — Month 02 Day 07 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: — Month 2 Day 7 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-005

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: Rhino Environmental Services Inc PO Box 310 Canutillo TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Non-Hazardous Gasoline, Diesel, Jet Fuel Impacted Soil

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 02 Day 07 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza — Truck #: 524 — Signature: Gustavo Esparza — Month 02 Day 07 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Ann Barrera — Signature: [signature] — Month 2 Day 7 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-006

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services, Inc PO Box 310 Canutillo TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Non-Hazardous Gasoline, Diesel, Jet Fuel Impacted Soil

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 02 Day 08 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza
Truck #: 524
Signature: Gustavo Esparza
Month 02 Day 08 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 8 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-007

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services Inc PO Box 310 Canutillo TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Non-Hazardous Gasoline, Diesel, Jet Fuel Impacted Soil

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 8 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivera Truck #: 525
Signature:
Month 2 Day 8 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 8 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-008

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services Inc PO Box 310 Canutillo TX 79835 - (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County, NM
Facility's Phone: (915) 886-4355

U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Non-Hazardous Gasoline, Diesel, Jet Fuel Impacted Soil

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 02 Day 08 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza — Truck #: 524 — Signature: Gustavo Esparza — Month 02 Day 08 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2 Day 8 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-011

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB NM 88330
Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services Inc PO Box 310, Canutillo TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N of NM/TX state line, Hwy 54 Otero County NM
Facility's Phone: (915) 886-4355
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month Day Year: 02 08 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Espinoza Truck # 524
Signature: Gustavo Espinoza
Month Day Year: 02 08 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year:

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month Day Year: 2 8 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-012

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330, (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone:

6. Transporter 1 Company Name: ~~Rhino Environmental Services, Inc. PO Box 310 Canutillo, TX 79835 (915) 886-4355~~ D.D-S Trucking CA — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM, (915) 886-4355 — U.S. EPA ID Number: NA

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods — Truck #: 210 — Signature: C E Woods — Month 2 Day 11 Year 8

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: JAMES GOMEZ — Signature: [illegible] — Month 2 Day 11 Year 8

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-013

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name D-N-J TRUCKING
~~Rhino Environmental Services, Inc. PO Box 310 Canutillo, TX 79835 (915) 886-4355~~
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Donald
Truck #: 204
Signature: Marlene Donald
Month 02 Day 11 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Santos Gomez
Signature: Santos Gomez
Month 2 Day 11 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-014

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 02 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza — Truck #: 524 — Signature: Gustavo Esparza — Month 02 Day 11 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2 Day 11 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-015

Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: Rhino Environmental Services, Inc., PO Box 319, Canutillo, TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M — Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 11 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivera — Truck # 525 — Signature: [signature] — Month 2 Day 11 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barrera — Signature: [signature] — Month 2 Day 11 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-016

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~Rhino Environmental Services, Inc~~ P-N-J Co PO Box 310 Canutillo TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month / Day / Year:

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: STEVEN J GONZALEZ Truck #: 209
Signature: Steven J Gonzalez
Month / Day / Year: 2 / 11 / 08

Transporter 2 Printed/Typed Name:
Signature:
Month / Day / Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month / Day / Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Santos Gomez
Signature: Santos Gomez
Month / Day / Year: 2 / 11 / 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM557 212422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-017

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330, (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone:

6. Transporter 1 Company Name: ~~Rhino Environmental Services Inc. PO Box 310 Garvillo, TX 79835 (915) 886-4355~~ DNJ TRUCKING — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM, (915) 886-4355 — U.S. EPA ID Number: NA

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M — Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 02, Day 11, Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold — Truck # 206 — Signature: Marlene Arnold — Month 02, Day 11, Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month, Day, Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month, Day, Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: SANTOS GOMEZ — Signature: Santos Gomez — Month 12, Day 11, Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-018

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
~~Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 (915) 886-4355~~ RJ DAVIS TRUCKING
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 02 Day 11 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods Truck #: 210
Signature: CE Woods
Month 2 Day 11 Year 8

Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Danny Hemer
Signature: Danny Hemer
Month 2 Day 11 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-019

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330
Generator's Phone: (505) 572-3931
Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

6. Transporter 1 Company Name: ~~Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 (915) 886-4355~~ DNJ TRUCKING
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM
Facility's Phone: (915) 886-4355
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 02 Day 11 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: STEVEN GONZALEZ Truck # 209
Signature: Steven Gonzalez
Month 2 Day 11 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: SANTOS GOMEZ
Signature: Santos Gomez
Month 12 Day 11 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-020

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services, Inc PO Box 310 Canutillo TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DF-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 02 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jenny Rivera Truck # 325
Signature:
Month 2 Day 11 Year 08

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 11 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
NM6572124422	1	(800) 762-0241	Holloman-08-021

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM

U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: [signature] — Month 02 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza — Truck #524 — Signature: [signature] — Month 02 Day 11 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2 Day 11 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-022

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330
Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330
Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: D.V.S trucking ~~Rhino Environmental Services, Inc. PO Box 319 Comanche, TX 76442~~ (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DF-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM
U.S. EPA ID Number: NA
Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartel
Signature: Deborah J Hartel
Month 2 Day 11 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods Truck # 210
Signature: C E Woods
Month 2 Day 11 Year 8

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Gustavo Esquivel
Signature: Gustavo Esquivel
Month 02 Day 11 Year 08

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

169-BLS-C 5 11979 (Rev. 8/06)

DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-023

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
D-N-J TRUCKING
~~Rhino Environmental Services, Inc. PO Box 210 Canutillo, TX 79835 (915) 886-4355~~
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold
Truck #: 206
Signature: Marlene Arnold
Month 02 Day 11 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Gustavo Esparza
Signature: Gustavo Esparza
Month 2 Day 11 Year 08

169-BLS-C 5 11979 (Rev. 8/06) DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-024

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services, Inc PO Box 310, Canutillo, TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 02 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza
Truck # 524
Signature: Gustavo Esparza
Month 02 Day 11 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 11 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-025

GENERATOR

Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: Rhino Environmental Services, Inc. PO Box 310 Canutillo, TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivera — Truck # 525 — Signature — Month 2 Day 11 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature — Month 2 Day 11 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-026

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: D&J Trucking PO Box 1433 Alamogordo NM 88311 (505) 434-3674 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM

U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 02 Day 11 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: STEVEN GONZALEZ — Truck # 209 — Signature: Steven Gonzalez — Month 2 Day 11 Year 08

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Gustavo Espinoza — Signature: Gustavo Espinoza — Month 02 Day 11 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-027

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB NM 88330

Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

6. Transporter 1 Company Name: D&J Trucking, PO Box 1433, Alamogordo, NM 88311, (505) 434-3674 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M — Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 12 Day 12 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods — Truck # 210 — Signature: CE Woods — Month 12 Day 12 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Santos Gomez — Signature: Santos Gomez — Month 12 Day 12 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-028

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: D&J Trucking PO Box 1433, Alamogordo, NM 88311, (505) 434-3674 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N of NM/TX state line, Hwy 54 Otero County NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 12 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold — Truck # 2014 — Signature: Marlene Arnold — Month 12 Day 12 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Rhino's Gomez — Signature: [illegible] — Month 12 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-029

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name RHINO ENVIRONMENTAL CO
~~D&J Trucking PO Box 1433 Alamogordo NM 88311 (505) 434-3674~~
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jonny Rivero Truck #: 525
Signature:
Month 12 Day 12 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Alan Barraza
Signature:
Month 12 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-030

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name RHINO ENVIRONMENTAL CA
~~D&J Trucking, PO Box 1433, Alamogordo, NM 88311 (505) 434-3874~~
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza Truck #: 524 Signature: Gustavo Esparza Month 2 Day 12 Year 08

Transporter 2 Printed/Typed Name Signature Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza Signature: Month 2 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-031

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
D&J Trucking, PO Box 1433 Alamogordo, NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 02 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold Truck # 206
Signature: Marlene Arnold
Month 02 Day 12 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Danny Herrera
Signature: Danny Herrera
Month 12 Day 12 Year 08

169-BLS-C 5 11979 (Rev. 8/06) DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-032

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: D&J Trucking, PO Box 1433, Alamogordo, NM 88311, (505) 434-3674 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M — Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 02 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods — Truck # 210 — Signature: C E Woods — Month 2 Day 12 Year 8

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: D'Antes Gomez — Signature: Santos Gomez — Month 12 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-033

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
D&J Trucking PO Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Phino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 02 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Espinoza Truck # 524
Signature: Gustavo Espinoza
Month 02 Day 12 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-03

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name RHINO ENVIRONMENTAL C4
~~D&L Trucking~~ PO Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivero Truck #525
Signature:
Month 2 Day 12 Year 08

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-035

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB NM 88330, (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB NM 88330

Generator's Phone:

6. Transporter 1 Company Name: D&J Trucking PO Box 1433 Alamogordo NM 88311 (505) 434-3674 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N of NM/TX state line, Hwy 54 Otero County NM, (915) 886-4355 — U.S. EPA ID Number: NA

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold — Truck #: 204 — Signature: Marlene Arnold — Month 02 Day 12 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Santos Gomez — Signature: Santos Gomez — Month 12 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-036

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: Rhino Environmental Services Inc PO Box 310 Canutillo TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N of NM/TX state line, Hwy 54, Otero County NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods — Truck # 210 — Signature: CE Woods — Month 2 Day 12 Year 8

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Andres Gomez — Signature: Andres Gomez — Month 12 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-037

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB NM 88330
Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services Inc PO Box 310 Canutillo TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DF-1051, 1.7 miles N of NM/TX state line, Hwy 54 Otero County NM
Facility's Phone: (915) 886-4355
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 12 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza Truck #524 Signature: Gustavo Esparza Month 2 Day 12 Year 08

Transporter 2 Printed/Typed Name: Signature: Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: Alan Barrera Signature: Month 2 Day 12 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-038

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services, Inc. PO Box 310, Canutillo, TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
Facility's Phone: (915) 886-4355
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 02 Day 12 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivers Truck # 525
Signature:
Month 2 Day 12 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 12 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124432	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-039

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

6. Transporter 1 Company Name: ~~Rhino Environmental Services, Inc. PO Box 210, Canutillo, TX 79835 - (915) 886-4355~~ D-N-S TRUCKING

U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA

U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM

Facility's Phone: (915) 886-4355

U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 13 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold — Truck # 254 — Signature: Marlene Arnold — Month 02 Day 13 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Carlos Gomez — Signature: Carlos Gomez — Month 02 Day 13 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-040

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 - (915) 886-4355~~ D.N.J. Trucking
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 13 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods Truck #: 210
Signature: C E Woods
Month 2 Day 13 Year 8

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Santos Gomez
Signature: Santos Gomez
Month 2 Day 13 Year 8

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DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-041

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~D&J Trucking PO Box 1438 Alamogordo NM 88311 (505) 434-3074~~
RHINO ENVIRONMENTAL CA
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 13 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza Truck # 524
Signature: Gustavo Esparza
Month 2 Day 13 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 13 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-042

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
~~D&J Trucking PO Box 1433 Alamogordo NM 88311 (505) 434-3674~~
RHINO ENVIRONMENTAL
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	YD³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 13 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivera Truck # 525
Signature:
Month 2 Day 13 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barrera
Signature:
Month 2 Day 13 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-043

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
D&J Trucking, PO Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 13 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold
Truck #: 206
Signature: Marlene Arnold
Month 02 Day 13 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Santos Gomez
Signature: Santos Gomez
Month 12 Day 13 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-044

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
D&J Trucking P.O. Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 13 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Charles E Woods Truck # 210
Signature: CE Woods
Month 2 Day 13 Year 8
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Juanito Gomez
Signature: Juanito Gomez
Month 2 Day 13 Year 08

DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-045

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~D&L Trucking PO Box 1433 Alamogordo NM 88311 (505) 434-3074~~
Rhino Environmental Cg
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 13 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza Truck #: 524
Signature: Gustavo Esparza
Month 02 Day 13 Year 08

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 13 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-046

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name: ~~D&J Trucking, PO Box 1433, Alamogordo, NM 88311 (505) 434-3674~~ Rhino Environmental — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
Facility's Phone: (915) 886-4355
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 13 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivers — Truck # 525 — Signature — Month 2 Day 13 Year 08

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alex Barraza — Signature — Month 2 Day 13 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-047

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

6. Transporter 1 Company Name: D&J Trucking, PO Box 1433, Alamogordo, NM 88311 (505) 434-3674 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DF 1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2, Day 13, Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold — Truck # 204 — Signature: Marlene Arnold — Month 02, Day 13, Year 08

Transporter 2 Printed/Typed Name — Signature — Month, Day, Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month, Day, Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Carlos Gomez — Signature: Carlos Gomez — Month 2, Day 13, Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-048

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: D&J Trucking PO Box 1432 Alamogordo NM 88311 (505) 434-3674 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Harteli — Signature: Deborah J Harteli — Month 2 Day 13 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods Truck #: 210 — Signature: C E Woods — Month 2 Day 13 Year 8

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Santos Gomez — Signature: Santos Gomez — Month 2 Day 13 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-049

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: ~~D&J Trucking, P.O. Box 1433, Alamogordo, NM 88311, (505) 434-3674~~ Rhino Environmental Co. — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M — Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2, Day 13, Year 08

INT'L

15. International Shipments: ☐ Import to U.S. ☐ Export from U.S. — Port of entry/exit:

Transporter Signature (for exports only): — Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza — Truck #: 524 — Signature: Gustavo Esparza — Month 2, Day 13, Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month, Day, Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month, Day, Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2, Day 13, Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
NM6572124422	1	(800) 762-0241	Holloman-08-050

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~A-Bell Trucking~~ Rhino Environmental CA PO Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.5 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day ~~13~~ 14 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jerry Rivera Truck #: 525
Signature:
Month 2 Day 14 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 14 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-051

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
~~Rhino Environmental Services, Inc. PO Box 319 Canutillo, TX 79835 (915) 886-4355~~ D-N-S
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E[illegible]
Truck # 210
Signature: CEWard
Month 2 Day 14 Year 8

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18a. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Santos Gomez
Signature: Santos Gomez
Month 12 Day 14 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-052

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave
Holloman AFB NM 88330

6. Transporter 1 Company Name
D-N-J TRUCKING
~~Rhino Environmental Services, Inc., PO Box 310, Caniullo, TX 79835 - (915) 886-4355~~
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Marlene Arnold
Truck # 206
Signature: Marlene Arnold
Month 02 Day 14 Year 08 (02-14-08)
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Santos Gomez
Signature: Santos Gomez
Month 12 Day 11 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-053

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services Inc. PO Box 310 Canutillo, TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Espinza Truck #: 524
Signature: Gustavo Espinza
Month 12 Day 14 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 14 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-054

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330
Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330
Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: ~~Rhino Environmental~~ Services, Inc. PO Box 810, Canutillo, TX 79835 – (915) 886-4355 D-N-S Trucking C4
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM
U.S. EPA ID Number: NA
Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold
Truck #: 206
Signature: Marlene Arnold
Month 02 Day 14 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Danny Herrera
Signature:
Month 2 Day 19 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-055

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~Rhino Environmental~~ Services, Inc PO Box 310 Canutillo TX 79835 – (915) 886-4355 DN-J TRUCKING CO
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 14 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods Truck # 210
Signature: CE Woods
Month 2 Day 14 Year 8

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: Danny Herrera
Signature: Danny Herrera
Month 2 Day 14 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-056

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
CT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services Inc PO Box 310 Canutillo, TX 79835 - (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jerry Rivera Truck #: 525 Signature: Month 2 Day 14 Year 08
Transporter 2 Printed/Typed Name: Signature: Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 14 Year 08

169-BLS-C 5 11979 (Rev. 8/06) DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-057

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: Rhino Environmental Services Inc. PO Box 310 Canutillo TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M — Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Espinoza — Truck # 524 — Signature: Gustavo Espinoza — Month 2 Day 14 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

17d. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2 Day 14 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-058

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
~~Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 – (915) 886-4355~~ D-N-J TRUCKING
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DF-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Harteli
Signature: Deborah J Harteli
Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Marlene Arnold
Truck #: 204
Signature: Marlene Arnold
Month 02 Day 14 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: SANTOS GOMEZ
Signature: Santos Gomez
Month 2 Day 14 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-059

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

6. Transporter 1 Company Name: ~~Rhino Environmental Services, Inc.~~ D-N-J Trucking Co. PO Box 210 Canutillo, TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Charles E Woods — Truck # 210 — Signature: C E Woods — Month 2 Day 14 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Antonio Gomez — Signature: Santos Jang — Month 2 Day 14 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-060

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
CT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services Inc. PO Box 310 Canutillo TX 79835 – (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54, Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 14 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Espinoza
Truck # 524
Signature: Gustavo Espinoza
Month 2 Day 14 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 14 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-061

GENERATOR

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: ~~D&J Trucking~~ RHINO ENVIRONMENTAL PO Box 1433 Alamogordo NM 88311 (505) 434-3674 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd^3	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 15 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivero — Truck #: 325 — Signature: [signature] — Month 2 Day 15 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month Day Year

169-BLS-C 5 11979 (Rev. 8/06) **DESIGNATED FACILITY TO GENERATOR**

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-062

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~D&J Trucking~~ RHINO ENVIRONMENTAL CO PO Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 15 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Espinoza
Truck #: 524
Signature: Gustavo Espinoza
Month 2 Day 15 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 15 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-063

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330
Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330
Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: ~~Bee Trucking, PO Box 1433, Alamogordo, NM 88311, (505) 434-3674~~ Rhino Environmental Svc
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM
U.S. EPA ID Number: NA
Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 15 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivera
Truck #: 525
Signature:
Month 2 Day 15 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barrazzi
Signature:
Month 2 Day 15 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
NM6572124422	1	(800) 762-0241	Holloman-08-064

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name
~~D&J Trucking~~ Rhino Environmental CO PO Box 1433, Alamogordo, NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 15 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza
Truck #: 524
Signature: Gustavo Esparza
Month 2 Day 15 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 15 Year 08

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-065

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~D&L Trucking~~ PO Box 1433, Alamogordo NM 88311 (505) 434-3674
Rhino Environmental
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 15 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivera Truck # 525 Signature: [signature] Month 2 Day 15 Year 08

Transporter 2 Printed/Typed Name: Signature: Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature: [signature]
Month 2 Day 15 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-066

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~DRJ Trucking~~ PO Box 1433 Alamogordo NM 88311 (505) 434-3674
Rhino Environmental
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 15 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Truck # 524
Signature:
Month 2 Day 15 Year 08

Transporter 2 Printed/Typed Name: Gustavo Esparza
Signature: Gustavo Esparza
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 7 Day 15 Year 08

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-067

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330
Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB, NM 88330
Generator's Phone: (505) 572-3931

6. Transporter 1 Company Name: ~~D&J Trucking~~ Rhino Environmental C.A. PO Box 1432, Alamogordo, NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM
U.S. EPA ID Number: NA
Facility's Phone: (915) 886-4355

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 19 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza Truck #: 524
Signature: Gustavo Esparza
Month 2 Day 19 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 19 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

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DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-09-068

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB NM 88330
Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB NM 88330

6. Transporter 1 Company Name: ~~D&J Trucking~~ Rhino Environmental, PO Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N of NM/TX state line, Hwy 54 Otero County NM
Facility's Phone: (915) 886-4355
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	YD³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 19 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jonny Rivero Truck # 525
Signature
Month 2 Day 19 Year 08

Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alex Barraza
Signature
Month 2 Day 19 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

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DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of 1	3. Emergency Response Phone	4. Waste Tracking Number
NM6572124422		(800) 762-0241	Holloman-08-069

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~D&J Trucking~~ Rhino Environmental, PO Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 19 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Espinza Truck # 524
Signature: Gustavo Espinza
Month 2 Day 19 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

17d. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 19 Year 08

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DESIGNATED FACILITY TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
NM6572124422	1	(800) 762-0241	Holloman-08-070

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
~~D&J Trucking~~ Rhino Environmental, PO Box 1433 Alamogordo NM 88311 (505) 434-3674
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	30	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 19 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivera Truck # 525
Signature:
Month 2 Day 19 Year 08

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza
Signature:
Month 2 Day 19 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-071

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB NM 88330, (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-45 (Building 296 Delaware Ave), Holloman AFB NM 88330

Generator's Phone:

6. Transporter 1 Company Name: Rhino Environmental Services Inc PO Box 310 Canutillo TX 79835 - (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N of NM/TX state line, Hwy 54, Otero County NM, (915) 886-4355 — U.S. EPA ID Number: NA

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M — Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 19 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gustavo Esparza — Truck # 529 — Signature: Gustavo Esparza — Month 2 Day 19 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: — Month 2 Day 19 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: NM6572124422
2. Page 1 of 1
3. Emergency Response Phone: (800) 762-0241
4. Waste Tracking Number: Holloman-08-072

5. Generator's Name and Mailing Address: 49th CES/CEV, Highway 70, Holloman AFB, NM 88330, (505) 572-3931

Generator's Site Address (if different than mailing address): 49th CES/CEV, OT-46 (Building 296 Delaware Ave), Holloman AFB, NM 88330

Generator's Phone:

6. Transporter 1 Company Name: Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 - (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address: Rhino's DP-1051, 1.7 miles N. of NM/TX state line, Hwy 54, Otero County, NM — U.S. EPA ID Number: NA

(915) 886-4355

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: M — Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 19 Year 08

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jerry Rivero — Truck #: 525 — Signature: [signature] — Month 2 Day 19 Year 08

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2 Day 19 Year 08

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-073

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services Inc. PO Box 310 Canutillo, TX 79835 - (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: [signature] — Month 2 Day 20 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Larry Rivera — Truck #: 525 — Signature: [signature] — Month 2 Day 20 Year 08

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2 Day 20 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-074

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB, NM 88330
Generator's Phone: (505) 572-3931

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB, NM 88330

6. Transporter 1 Company Name: Rhino Environmental Services, Inc., PO Box 310, Canutillo, TX 79835 – (915) 886-4355 — U.S. EPA ID Number: NA

7. Transporter 2 Company Name: NA — U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N. of NM/TX state line
Hwy 54, Otero County, NM
Facility's Phone: (915) 886-4355

U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non-Hazardous, Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	Yd³	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information

Cell: **M** Excavation of soil from LUST remediation project

14. 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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell — Signature: Deborah J Hartell — Month 2 Day 20 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jerry Rivera — Truck #: 525 — Signature: [signature] — Month 2 Day 20 Year 08
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Alan Barraza — Signature: [signature] — Month 2 Day 20 Year 08

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number NM6572124422	2. Page 1 of 1	3. Emergency Response Phone (800) 762-0241	4. Waste Tracking Number Holloman-08-075

GENERATOR

5. Generator's Name and Mailing Address
49th CES/CEV
Highway 70
Holloman AFB NM 88330
(505) 572-3931
Generator's Phone:

Generator's Site Address (if different than mailing address)
49th CES/CEV
OT-45 (Building 296 Delaware Ave)
Holloman AFB NM 88330

6. Transporter 1 Company Name
Rhino Environmental Services Inc PO Box 310 Canutillo TX 79835 -- (915) 886-4355
U.S. EPA ID Number: NA

7. Transporter 2 Company Name
NA
U.S. EPA ID Number: NA

8. Designated Facility Name and Site Address
Rhino's DP-1051
1.7 miles N of NM/TX state line
Hwy 54 Otero County NM
(915) 886-4355
Facility's Phone:
U.S. EPA ID Number: NA

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Non-RCRA Hydrocarbon Impacted Soil	1	Dump	20	YD	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Cell: M Excavation of soil from LUST remediation project

14. **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.

Generator's/Offeror's Printed/Typed Name: Deborah J Hartell
Signature: Deborah J Hartell
Month 2 Day 20 Year 08

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Jenny Rivera Truck #525
Signature:
Month 2 Day 20 Year 08
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Alex Barraza
Signature:
Month 2 Day 20 Year 08

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DESIGNATED FACILITY TO GENERATOR

OT-45 Truck Logs (FT-31 Landfarm)

FT-31 TRUCK LOGS FOR PCS FROM SITE OT-45 OLD AGE REFUELING AREA

Date	Time	Truck number	Driver's name	Volume	Unit	Cell Placement	Desc. of Cont.	Cumulative
02/25/08	7:55	A25D	R. JONES	16	CY	A-1	PCS	16
02/25/08	8:04	A25D	R. JONES	16	CY	A-1	PCS	32
02/25/08	8:21	A25D	R. JONES	16	CY	A-1	PCS	48
02/25/08	8:38	A25D	R. JONES	16	CY	A-1	PCS	64
02/25/08	9:21	A25D	R. JONES	16	CY	A-1	PCS	80
02/25/08	9:36	A25D	R. JONES	16	CY	A-1	PCS	96
02/25/08	9:47	A25D	R. JONES	16	CY	A-1	PCS	112
02/25/08	12:13	A25D	R. JONES	16	CY	A-1	PCS	128
02/25/08	8:07	2160	S. HARRISON	16	CY	A-1	PCS	144
02/25/08	8:22	2160	S. HARRISON	16	CY	A-1	PCS	160
02/25/08	8:36	2160	S. HARRISON	16	CY	A-1	PCS	176
02/25/08	9:08	2160	S. HARRISON	16	CY	A-1	PCS	192
02/25/08	9:32	2160	S. HARRISON	16	CY	A-1	PCS	208
02/25/08	9:43	2160	S. HARRISON	16	CY	A-1	PCS	224
02/25/08	9:56	2160	S. HARRISON	16	CY	A-1	PCS	240
02/25/08	12:23	2160	S. HARRISON	16	CY	A-1	PCS	256
02/26/08	7:35	2160	S. HARRISON	16	CY	A-1	PCS	272
02/26/08	8:38	2160	S. HARRISON	16	CY	A-1	PCS	288
02/26/08	9:02	2160	S. HARRISON	16	CY	A-1	PCS	304
02/26/08	9:50	2160	S. HARRISON	16	CY	A-1	PCS	320
02/26/08	10:35	2160	S. HARRISON	16	CY	A-1	PCS	336
02/26/08	12:05	2160	S. HARRISON	16	CY	A-1	PCS	352
02/26/08	15:10	2160	S. HARRISON	16	CY	A-1	PCS	368
02/27/08	11:05	2160	S. HARRISON	16	CY	A-2	PCS	384
02/27/08	12:47	2160	S. HARRISON	16	CY	A-2	PCS	400
02/27/08	14:55	2160	S. HARRISON	16	CY	A-2	PCS	416
02/28/08	8:00	5596	C. GAINES	16	CY	A-2	PCS	432
02/28/08	8:33	5596	C. GAINES	16	CY	A-2	PCS	448
02/28/08	8:38	5596	C. GAINES	16	CY	A-2	PCS	464
02/28/08	8:42	5596	C. GAINES	16	CY	A-2	PCS	480
02/28/08	8:49	5596	C. GAINES	16	CY	A-2	PCS	496
02/28/08	9:06	5596	C. GAINES	16	CY	A-2	PCS	512
02/28/08	9:13	5596	C. GAINES	16	CY	A-2	PCS	528
02/28/08	9:19	5596	C. GAINES	16	CY	A-2	PCS	544
02/28/08	9:24	5596	C. GAINES	16	CY	A-2	PCS	560
02/28/08	9:57	5596	C. GAINES	16	CY	A-2	PCS	576
02/28/08	10:02	5596	C. GAINES	16	CY	A-2	PCS	592
02/28/08	8:05	2160	C. GRAHAM	16	CY	A-2	PCS	608
02/28/08	8:37	2160	C. GRAHAM	16	CY	A-2	PCS	624
02/28/08	8:45	2160	C. GRAHAM	16	CY	A-2	PCS	640
02/28/08	8:52	2160	C. GRAHAM	16	CY	A-2	PCS	656
02/28/08	9:09	2160	C. GRAHAM	16	CY	A-2	PCS	672
02/28/08	9:28	2160	C. GRAHAM	16	CY	A-2	PCS	688
02/28/08	10:00	2160	C. GRAHAM	16	CY	A-2	PCS	704
02/28/08	10:05	2160	C. GRAHAM	16	CY	A-2	PCS	720
02/28/08	10:09	2160	C. GRAHAM	16	CY	A-2	PCS	736
02/28/08	13:17	5596	C. GAINES	16	CY	A-3	PCS	752
02/28/08	13:23	5596	C. GAINES	16	CY	A-3	PCS	768
02/28/08	13:27	5596	C. GAINES	16	CY	A-3	PCS	784

FT-31 TRUCK LOGS FOR PCS FROM SITE OT-45 OLD AGE REFUELING AREA

02/28/08	13:33	5596	C. GAINES	16	CY	A-3	PCS	800
02/28/08	13:38	5596	C. GAINES	16	CY	A-3	PCS	816
02/28/08	13:46	5596	C. GAINES	16	CY	A-3	PCS	832
02/28/08	13:51	5596	C. GAINES	16	CY	A-3	PCS	848
02/28/08	13:57	5596	C. GAINES	16	CY	A-3	PCS	864
02/28/08	14:03	5596	C. GAINES	16	CY	A-3	PCS	880
02/28/08	14:09	5596	C. GAINES	16	CY	A-3	PCS	896
02/28/08	13:21	2160	C. GRAHAM	16	CY	A-3	PCS	912
02/28/08	13:26	2160	C. GRAHAM	16	CY	A-3	PCS	928
02/28/08	13:31	2160	C. GRAHAM	16	CY	A-3	PCS	944
02/28/08	13:35	2160	C. GRAHAM	16	CY	A-3	PCS	960
02/28/08	13:40	2160	C. GRAHAM	16	CY	A-3	PCS	976
02/28/08	13:42	2160	C. GRAHAM	16	CY	A-3	PCS	992
02/28/08	13:49	2160	C. GRAHAM	16	CY	A-3	PCS	1008
02/28/08	13:56	2160	C. GRAHAM	16	CY	A-3	PCS	1024
02/28/08	14:01	2160	C. GRAHAM	16	CY	A-3	PCS	1040
02/28/08	14:07	2160	C. GRAHAM	16	CY	A-3	PCS	1056
02/28/08	14:13	2160	C. GRAHAM	16	CY	A-3	PCS	1072
02/28/08	14:16	5596	C. GAINES	16	CY	A-4	PCS	1088
02/28/08	14:22	5596	C. GAINES	16	CY	A-4	PCS	1104
02/28/08	15:06	5596	C. GAINES	16	CY	A-4	PCS	1120
02/28/08	15:11	5596	C. GAINES	16	CY	A-4	PCS	1136
02/28/08	14:20	2160	C. GRAHAM	16	CY	A-4	PCS	1152
02/28/08	14:55	2160	C. GRAHAM	16	CY	A-4	PCS	1168
02/28/08	15:03	2160	C. GRAHAM	16	CY	A-4	PCS	1184
02/28/08	15:09	2160	C. GRAHAM	16	CY	A-4	PCS	1200
02/29/08	8:00	5596	C. GAINES	16	CY	A-4	PCS	1216
02/29/08	8:06	5596	C. GAINES	16	CY	A-4	PCS	1232
02/29/08	8:13	5596	C. GAINES	16	CY	A-4	PCS	1248
02/29/08	8:23	5596	C. GAINES	16	CY	A-4	PCS	1264
02/29/08	8:28	5596	C. GAINES	16	CY	A-4	PCS	1280
02/29/08	8:38	5596	C. GAINES	16	CY	A-4	PCS	1296
02/29/08	8:43	5596	C. GAINES	16	CY	A-4	PCS	1312
02/29/08	8:48	5596	C. GAINES	16	CY	A-4	PCS	1328
02/29/08	8:53	5596	C. GAINES	16	CY	A-4	PCS	1344
02/29/08	9:03	5596	C. GAINES	16	CY	A-4	PCS	1360
02/29/08	9:08	5596	C. GAINES	16	CY	A-4	PCS	1376