14 September 2005

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT

Mr. Cornelius Amindyas
Hazardous Waste Bureau
5500 San Antonio Drive NE
Albuquerque, New Mexico 87109

RECEIVED
SEP 2005
NMED Hazardous
Waste Bureau

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

SUBJECT: Voluntatry Corrective Measures Report for AOC-1 DP-64 Chemical Agent Site at Holloman Air Force Base, New Mexico, EPA ID NM6572124422

1. Please find the subject report titled: Site Specific Report for Ordnance and Explosive Removal Action at Holloman Airforce Base prepared by Zapata Engineering

2. This report summarizes the Voluntary Corrective Measures performed at this site. Please review and provide comments or approval of no further action.

3. If you have any questions please contact me at (505) 572-5395.

Daniel K. Holmquist

Environmental Restoration 49 CES/CEV

Attachment: Site Specific Report for Ordnance and Explosive Removal Action at Holloman Airforce Base prepared by Zapata Engineering

Cc (w/attachment):

Mr. John Kieling
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Santa Fe, NM 87505-6303

U. S. ARMY ENGINEER DIVISION HUNTSVILLE

CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT 03-132-05, Holloman Draft Final Report

- ☐ SITE DEV & GEO
- ☐ ENVIR PROT& UTIL
- ☐ ARCHITECTURAL
- ☐ STRUCTURAL
- ☐ MECHANICAL
- ☐ MFG TECHNOLOGY
- ☐ ELECTRICAL
- ☐ INST & CONTROLS
- ☒ OE SAFETY
- ☐ ADV TECH
- ☐ ESTIMATING
- ☐ SPECIFICATIONS
- ☐ SYSTEMS ENG
- ☐ VALUE ENG
- ☐ OTHER

REVIEW Draft Final

DATE 18 March 2005

NAME David Becker, Safety Specialist, 256-426-0655

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		I have reviewed the documents Volumes I and II, and submit the following comments for Volume I	
1	Pg 2-9 para 2.10.2	Remove Portable Chemical Agent Assessment System (PCAS) and replace with RAMANS Spectrometer System.	N: IAW the ECBC report it states: "The portable Chemical Agent Identification Sets (CAIS) Assessment System (PCAS) was used on July 12, 2004 to non-intrusively evaluate the chemical contents of the ampoules found at Holloman…." It also states that the instrument used was the Raman Spectrometer with Raman Probe… The text was changed to reflect this as written in the ECBC report, dated July 19, 2004.
2	Same pg	Edgewood CBC should be spelled out or use ECBC which is now SBCOM (Soldiers Chemical Biological Command)	A: Text changed to "ECBC" as the acronym was spelled out earlier.
3	Pg 1-5	Both Richard Byrd and David Becker were CEHNC Safety Specialist during the project	A: David Becker's name was added to Table 1-1.
		Concur with report in other areas except where identified in comments above.	

ACTION CODES
A - ACCEPTED/CONCUR
D - ACTION DEFERRED
W - WITHDRAWN
N - NON-CONCUR
VE - VE POTENTIAL/VEP ATTACHED

U. S. ARMY ENGINEER DIVISION HUNTSVILLE

CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT DP-64 Holloman AFB CNTRL# 03-132-05

- ☐ SITE DEV & GEO
- ☐ ENVIR PROT& UTIL
- ☐ ARCHITECTURAL
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- ☐ SPECIFICATIONS
- ☐ SYSTEMS ENG
- ☐ VALUE ENG
- ☐ OTHER

REVIEW Draft Final Site Specific Report

DATE 22 March, 2005

NAME Richard Byrd, 256-426-0654, OE-S

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		I have reviewed Volumes 1 and 2 and have the following comments	
1	Page 1-5,Table1.1	David Becker was also on-site as a CEHNC Safety Specialist.	A: David Becker's name was added to Table 1-1.
2	Page 2-9,para 2.10.2	The vials were analyzed using the RAMANS, not the equipment listed here.	N: The RAMANS was used as the instrument in the Portable Chemical Agent Identification Sets (CAIS) Assessment System (PCAS). The text was changed to reflect the verbiage used in the PCAS Assessment of CAIS Items At Holloman AFB, NM, dated July 19, 2004.
3	Page 2-9, para. 2.10.2	The RAMANS was operated by ECBC personnel. Not Edgewood CBC.	A: Text changed to "ECBC".

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U. S. ARMY ENGINEER DIVISION HUNTSVILLE

CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT Holloman AFB (CN: 03-132-05, S: 1 Apr 05)

- ☐ SITE DEV & GEO
- ☒ ENVIR PROT& UTIL
- ☐ ARCHITECTURAL
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- ☐ SPECIFICATIONS
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- ☐ OTHER

REVIEW: OE Removal Action Report

DATE: 07/22/15

NAME: Scott Bradley / ED-CS-P / 895-1637

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	Table 1-1 p.1-5	Under USAESCH, add Scott Bradley, Technical Manager, Attended DA Survey, and Intrusive Investigation	A: Scott Bradley's name added to Table 1-1 as the Technical Manager for DA Survey and Intrusive Investigation.
2.	Section 2.5.1 p. 2-4	Final sentence should be corrected to read, "…amounts of vegetation…geophysical survey **were** removed and…"	A: Text changed to "were".
3.	Section 2.5.2 p. 2-4	Please rephrase to improve readability.	A: Text was confusing and changed to improve readability.
4.	Section 2.5.3 p. 2-4	Correct first sentence to "After evaluating **site conditions at the time of** the discovery…"	A: Text changed as stated in your comment.
5.	Section 6.2 p. 6-1	Please separate the two issues being addressed here. Describe likelihood of discovery of CWM in DP-64 as one concern. Describe CWM occurrence on surrounding property as a separate paragraph.	A: The two issues have been separated. An additional paragraph was added (para 6.3) to reflect the possibility of additional CAIS on Holloman.

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U. S. ARMY ENGINEER DIVISION HUNTSVILLE

CORPS OF ENGINEERS

DESIGN REVIEW COMMENTS

PROJECT Holloman AFB; Control No: 03-132-05; Suspense: 01Apr05

■ SITE DEV & GEO	☐ MECHANICAL	☐ SAFETY	☐ SYSTEMS ENG
☐ ENVIR PROT& UTIL	☐ MFG TECHNOLOGY	☐ ADV TECH	☐ VALUE ENG
☐ ARCHITECTURAL	☐ ELECTRICAL	☐ ESTIMATING	☐ OTHER
☐ STRUCTURAL	☐ INST & CONTROLS	☐ SPECIFICATIONS	

REVIEW Draft Site Specific Report for OE RA

DATE 29Mar05

NAME Amy Walker/ED-CS-G/256-895-1604

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
		CEHNC-ED-CS-G provided a review of the Draft Site Specific Report for the OE Removal Action at Holloman AFB dated November 2004, and has the following comments:	
1	Appendix E	The dig sheets are not complete. There are multiple targets with no dig results. In addition, many of the Post-Dig Excavation QC Results (QC initials and Date) are not filled in.	A: Dig Sheets have been completed.
2	Appendix D	The 'attached CD' as referenced in this section and containing all the final geophysical data submittals is not present.	A: The CD is now attached to the report and contained in Appendix D.
3	Appendix	Document is missing geophysical field data sheets in the appendices	A: One Geophysical Data Sheet has been completed for all 24 grids as the survey was conducted within three hours using the MTADS. This Geophysical Data Sheet in included in Appendix E in front of all the Dig Sheet Records.
4	S:2.6.5, pg 2-6	Delete next to last sentence in paragraph to minimize confusion by non-geophysical readers ***…"Targets that are found to be misplaced or invalid were moved or removed"***	A: Sentence removed to eliminate confusion.
5	S:2.7.3, pg 2-7	Insert before last sentence to explain why a 9" can was used as a target objective. ***"The nine-inch metal can is the size and shape of an individual CAIS set, each "CAIS pig" contains four (4) CAIS set cans."***	A: Sentence inserted as requested.
		-No Further Comments-	

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U. S. ARMY ENGINEER DIVISION HUNTSVILLE

CORPS OF ENGINEERS

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PROJECT Holloman Site Specific Final Report No CN

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- ☐ SPECIFICATIONS
- ☐ SYSTEMS ENG
- ☐ VALUE ENG
- ☐ OTHER

REVIEW

DATE 15 March 2005

NAME Kellie Williams / ED-SY-S/ 256-895-1584-

ITEM	DRAWING NO. OR REFERENCE	COMMENT	ACTION
1.	General	CEHNC-ED-SY-S has reviewed this document and has the following comment(s).	
2.	Page 1-5	Role of Kellie Williams is Industrial Hygienist not Safety Specialist. Also, check should be in the pre-op survey only.	A: Table 1-1 changed to reflect Ms. Williams as an Industrial Hygienist during the pre-op survey only.
3.	Page 2-4	Paragraph 2.5.2. Recommend rewording this paragraph the first sentence is difficult to read.	A: Paragraph revised to make more readable.
4.	Appendix I	Safety documentation. All that is contained in this appendix is the Safety Meeting Attendance log and in some cases these logs are not filled out completely as the topics discussed is left blank. Please include some narrative regarding air monitoring results and any accidents during the project. Also, there should have been site inspections during the project. This is not shown in this appendix.	A: Additional safety documentation added to Appendix I (Heavy Equipment Inspection Logs, Vehicle Inspection Logs). Safety Attendance Logs completed and updated to include daily safety topics as per Safety Officer's Log Book. An introduction has been added to Appendix I to state that air monitoring was conducted by ECBC and that there were no accidents during the project.

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FINAL

SITE SPECIFIC FINAL REPORT

FOR

ORDNANCE AND EXPLOSIVE REMOVAL ACTION

AT

HOLLOMAN AIR FORCE BASE
NEW MEXICO

Contract: DACA87-00-D-0034
Task Order: 0019

Prepared for:

US Army Engineering and Support Center, Huntsville

by:

ZAPATA ENGINEERING
TRUST • INTEGRITY • QUALITY
6302 Fairview Road, Suite 600
Charlotte, NC 28210

June 2005
Volume I of II

FINAL

SITE SPECIFIC FINAL REPORT

FOR
ORDNANCE AND EXPLOSIVE REMOVAL ACTION
AT
HOLLOMAN AIRFORCE BASE
NEW MEXICO

Contract: DACA87-00-D-0034
Task Order: 0019

June 2005

Prepared for:

US ARMY ENGINEERING AND SUPPORT CENTER,
HUNTSVILLE

by:

ZAPATA ENGINEERING
TRUST • INTEGRITY • QUALITY

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CHARLOTTE, NORTH CAROLINA 28210
PHONE: (704) 358-8240

The views, opinions, and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.

Signed: _____
Larry Hudgins
Project Manager

Signed: _____
Suzy Cantor-McKinney
V.P., OE Programs

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(CONTINUED IN VOLUME II)

ABBREVIATIONS AND ACRONYMNS

CAIS	Chemical Agent Identification Set
CEHNC	US Army Engineering and Support Center, Huntsville
CFR	Code of Federal Regulations
CSS	Chemical Safety Submission
DA	Department of the Army
DD	Department of Defense (usually used in the designation of various DOD forms)
DGM	Digital Geophysical Mapping
DID	Data Item Description
ECBC	Edgewood Chemical Biological Center
EM	Electromagnetic
EMT	Emergency Medical Technician
EOD	Explosive Ordnance Disposal
FWEC	Foster Wheeler Environmental Corporation
GIS	Geographical Information System
GPO	Geophysical Prove-Out
GPR	Ground Penetrating Radar
GPS	Global Positioning System
HD	Mustard Gas (Agent)
IHF	Interim Holding Facility
MAG	Magnetometer
MIP	Mobile Instrument Platform
MTADS	Multiple-Towed Array Detection System
NAD	North American Datum
NIOSH	National Institute of Safety and Health
NCP	National Contingency Plan
OE	Ordnance and Explosives
ORNL	Oak Ridge National Laboratory
OSHA	Occupational Safety and Health Administration
PCAS	Portable Chemical Agent Assessment System
PDS	Personnel Decontamination Station
PMNSCM	Project Manager Non-Stockpile Chemical Materiel
PPE	Personal Protective Equipment
PS	Chloropicrin
QA	Quality Assurance
QC	Quality Control
QCS	Quality Control Specialist
QCO	Quality Control Officer
QCSR	Quality Control Summary Report
RA	Removal Action
RAB	Restoration Advisory Board
RAC	Risk Assessment Code
RCRA	Resource Conservation and Recovery Act
RCWM	Recovered Chemical Warfare Materiel
RTK	Real Time Kinematic
SAP	Sampling and Analysis Plan
SCANS	Single CAIS Agent Neutralization System
SO	Safety Officer
SOW	Scope of Work
SPA	Single Point Anomaly
SSHP	Site Safety and Health Plan

SUXOS	Senior Unexploded Ordnance Supervisor
SWRI	Southwest Research Institute
TDEM	Time Domain Electromagnetic
TEU	Technical Escort Unit
US	United States
USACE	United States Army Corps of Engineers
US EPA	United States Environmental Protection Agency
USAESCH	U.S. Army Engineering Support Center, Huntsville
USRADS	Ultrasonic Ranging and Detection System
UTM	Universal Transect Meridian
UXO	Unexploded Ordnance
UXOQCS	Unexploded Ordnance Quality Control Specialist
UXOSO	Unexploded Ordnance Safety Officer

1.0 INTRODUCTION

Under contract to the US Army Engineering and Support Center, Huntsville (USAESCH) Ordnance and Explosives Center of Expertise, ZAPATAENGINEERING performed an Ordnance and Explosives (OE), Recovered Chemical Warfare Materiel (RCWM) removal action on Area DP-64, Holloman Air Force Base, New Mexico, which is located in Otero County near the town of Alamogordo, New Mexico. The recommended investigation and removal actions for Area DP-64 are derived from the Final Chemical Safety Submission (CSS) completed in July 2002 by Foster Wheeler Environmental Corporation (FWEC) with subsequent revisions and corrections.

1.1 PROJECT OBJECTIVE

The initial objective as stated in the Scope of Work (SOW) of the USAESCH-issued Task Order was to conduct a geophysical survey and based on the results of that survey, conduct a removal action for OE and RCWM in Area DP-64, which is a 400-feet by 600-feet area adjacent to the capped Holloman Landfill.

1.2 PROJECT AUTHORITY AND GENERAL GUIDANCE

The activities performed by the ZAPATAENGINEERING project team fell under the Installation Restoration Program as RCWM and OE was discovered on an active Department of Defense installation. RCWM and OE are extreme hazards and, if present, constitute an imminent and substantial endangerment to on-site personnel and local populace, thus the applicable provisions of 29 CFR 1910.120 apply. All activities were performed under the Resource Conservation and Recovery ACT (RCRA) Subtitle C and the National Contingency Plan (NCP) and were supplemented by the procedures in the CSS prepared by Foster Wheeler for Area DP-64. The CSS supplemented by ZAPATAENGINEERING's Work Plans provided the approach, methodology, plans, and procedures to support ordnance and explosive surface sweep/clearance, geophysical investigation, and intrusive remediation of Area DP-64.

1.3 SITE LOCATION

Area DP-64 is approximately 5.5 acres in size and is located in the southeastern portion of Holloman Air Force Base on the north side and adjacent to the former Main Base Landfill. Holloman AFB is located in Otero County, New Mexico and covers approximately 60,000 acres. Holloman AFB was established as Alamogordo Army Air Field in 1942. The Holloman Air Development Center was established in 1952 as one of the primary locations for guided missiles and space research and development for the Air Force.

1.4 SITE HISTORY

1.4.1 Holloman AFB began in 1942 as Alamogordo Army Air Field to serve as the center for the British Overseas Training Program; however, everything changed when the Japanese launched a surprise attack against the Hawaiian Islands. The British decided to no longer pursue its overseas training program, and the United States military saw the location as an opportunity to train its own growing military.

1.4.2 From 1942 to 1945, Alamogordo Army Air Field served as the training grounds for over 20 different flying groups, flying primarily B-17s, B-24s, and B-29s. In 1947, a new era began when the Air Materiel Command announced the airfield would be its primary site for the testing and development of pilotless aircraft, guided missiles, and other research programs. For the next

25 years, the site, which became known as the Holloman Development Center, and later the Air Force Missile Development Center, launched many missiles including the Tiny Tim, Rascal, V-2, XQ-2 Drone, Falcon, MACE, Matador, and Shrike.

1.4.3 On January 13, 1948, the Alamogordo installation was renamed Holloman Air Force Base, in honor of the late Colonel George V. Holloman, a pioneer in guided missile research. Another era began at Holloman on 1 July 1968, when the 49th Tactical Fighter Wing arrived. The 49th's F-4 Phantom IIs introduced a new era of fighter aircraft training and operations, which continued for the next three decades and until today. In 1977, the 49th transitioned to the F-15 Eagle, the Air Force's top air-to-air weapon. In 1992, Holloman AFB again gained national attention when the Air Force's most technological fighter, the F-117A Nighthawk made its new home at Holloman. Today, Holloman AFB continues to serve at the forefront of military operations, with its F-117 "Stealth" aircraft and serving as the training center for the German Air Force's Tactical Training Center.

1.4.4 On 9 February 2000, a pedestrian walking near the Holloman Landfill, located on the eastern edge of the base, spotted several broken vials and two intact vials full of a clear to yellowish liquid. The landfill topsoil had recently been turned as part of the re-vegetation project. The pedestrian reported the sightings to the 49th Environmental Flight. The environmental flight and FWEC, the environmental cleanup contractor, responded. The two intact vials were located, recovered and sent to a laboratory at Brooks AFB, Texas, and later forwarded to Southwest Research Institute (SWRI) for analysis. SWRI was tasked to analyze the liquid contents of the two ampoules for chemical warfare agents and three industrial chemical agents. The results of SWRI's analysis revealed that one vial contained 5 percent distilled mustard gas (HD) in chloroform, and the other vial contained 5 percent Lewisite in chloroform. The findings were consistent with the descriptions of the Chemical Agent Identification Set (CAIS) ampoules found in K951/K952 CAIS.

1.4.5 According to the 1945 Report of Controlled and Other Critical Items of Equipment, two M4 sulfur mustard vapor detector kits and three detonation CAIS were present at Holloman AFB. The 1996 Survey and Analysis Report identify Alamogordo Army Air Base as a location where CAIS were recovered.

1.5 TECHNICAL INSTRUCTION

ZAPATAENGINEERING, under contract to the USAESCH, conducted the OE/RCWM investigation and removal action of Area DP-64 beginning in April 2004 and concluding in September 2004. ZAPATAENGINEERING worked in close coordination with the USAESCH while developing the project scope, work plan, and technical directives. The USAESCH SOW outlined the USAESCH guidance for the overall project. ZAPATAENGINEERING completed the work in accordance with the SOW and the approved project work plan entitled "Ordnance and Explosive Recovered Chemical Warfare Materiel Removal Action, Holloman Air Force Base, Otero County, New Mexico."

1.6 TECHNICAL SCOPE AND APPROACH

As the prime contractor, ZAPATAENGINEERING utilized a team approach consisting of in-house capabilities and subcontractors to conduct the site preparation, survey operations, geophysical

operations, anomaly re-acquisitions, intrusive anomaly removals, quality control (QC) checks, scrap management and site restoration within the 5.5 acres of Area DP-64.

1.6.1 Project Team Organization

Project-specific personnel critical to the work site and their responsibilities while on-site are described in detail below. Personnel on the site for various activities are listed in Table 1-1.

1.6.2 Project Manager

The Project Manager was Mr. Larry Hudgins. He was responsible for ensuring execution of the project in a timely and cost effective manner. He was also responsible for communicating with the USAESCH Project Manager, oversight of the performance of the project team, coordinating all contract and subcontract work and resolving problems. His responsibilities included monitoring adherence to the project schedule and overall management of the project budget, including assurance that subcontractor costs were within budget.

1.6.3 Project Geophysicist

Mr. David Smith was responsible for ensuring that high-quality geophysical data were collected, analyzed and evaluated in accordance with contract and SOW requirements. His responsibilities included monitoring geophysical subcontractor field operations, reviewing raw data for quality control and evaluating final data for contract and SOW compliance.

1.6.4 UXO Quality Control Specialist

Through the duration of fieldwork Mr. Jerry Krieger and later Mr. Steve Burhans performed the duties of Unexploded Ordnance Quality Control Specialist (UXOQCS), responsible for quality control of all site activities required by the USAESCH and the SOW. The UXOQCS was responsible to the ZAPATAENGINEERING Project Manager for project quality control, which included administering the program and coordinating site activities with the Senior Unexploded Ordnance Supervisor (SUXOS). He was also responsible for maintaining the site inventory of government and subcontractor equipment.

1.6.5 UXO Safety Officer

Through the duration of fieldwork, Mr. Terry Farmer was the UXO Safety Officer (UXOSO). He was responsible for ensuring site safety and compliance with the safety provisions of the Work Plan, the SSHP, and the CSS. The UXOSO had the on-site responsibility and authority to halt work and to remove personnel from the site if working conditions changed and affected on-site/off-site safety or health. Mr. Farmer was the primary point of contact for any on-site emergency and conducted safety briefings daily.

1.6.6 Senior UXO Supervisor

The Senior UXO Supervisor (SUXOS) was Mr. Paul Bechtel. He was responsible for on-site management of UXO services. This included direction of all UXO site operations and coordination with the UXOQC/SO, Project Manager and sub-contractors. Responsibilities also included inspection/certification of RCWM/OE scrap, RCWM/OE scrap disposition and the documentation and reporting of RCWM/UXO activities.

1.6.7 UXO Technicians

Those involved in the OE investigation, reacquisition of geophysical targets, intrusive operations and OE removal and/or disposal included Chris Brown (Tech III), Walter Hildreth (Tech III), Mike Matthews (Tech III), Val Valdez (Tech II), Bobby Sammons (Tech II), Anthony Locklear (Heavy Equipment Operator), Nate Reel (Environmental Technician), and Brad Kuntz (Environmental Technician). The UXO Technicians reported to the SUXOS. While on-site, UXO Technicians were responsible for conducting UXO services including UXO escort, intrusive removal operations, UXO disposal operations and scrap management.

1.6.8 Geographical Information System (GIS) Manager

Mr. Tim Burkett was responsible for development and maintenance of the project maps and figures in accordance with contract and SOW requirements.

1.6.9 Technical Manager

Mr. David Wolf was responsible for the standard data analysis, which includes; diurnal correction, positional offset correction, sensor drift removal, latency correction, and geophysical noise identification and removal. After analysis of the geophysical data, Mr. Wolf developed digital "dig sheets" for transfer to the project site. Through out the project he ensured products and services satisfied client requirements including quality, safety, performance, reliability, durability, accuracy, and maintainability. Mr. Wolf provided technical oversight to ensure products and services complied with applicable standards, regulations, specifications, and documentation procedures.

1.6.10 Geophysical Mapping

Natasa Mekic (Blackhawk) was responsible for conducting the electronic geophysical data collection. Her responsibilities included establishing the geophysical survey area within grid boundaries, collecting grid data, maintaining geophysical equipment and transferring data to the Technical Manager at the ZAPATAENGINEERING office in Charlotte, NC and to the ZAPATAENGINEERING Senior Geophysicist.

1.6.11 Surveyor (Construction Surveying Services, Inc.)

Mr. Steven Sandoval, PS (Construction Surveying Services, Inc.) was responsible for conducting surveys that established the locations and accurate dimensions of the grids in Area DP-64 and the Geophysical Prove-Out (GPO) area. While on-site, the survey team was escorted by UXO Technicians.

1.6.12 Emergency Medical Technician/Ambulance Support (American Medical Response, Inc.)

Mr. Cliff Halls and Mr. Joel Darby (American Medical Response, Inc.) were responsible for providing highly trained and certified Emergency Medical Technician (EMT) and ambulance support during all field activities.

TABLE 1-1 PROJECT PERSONNEL ROLES AND PARTICIPATION

PERSONNEL	ROLE	SITE PREP RCWM SURVEY/ DA SURVEY	GEOPHYSICAL – OE REMOVAL		INTRUSIVE INVESTIGATION	RCWM DISPOSAL & SITE RESTORE
			GEOPHYSICAL PROVE-OUT	GEOPHYSICAL SURVEY & REACQUISITION		
USAESCH PERSONNEL						
Allyn Allison	Project Manager	√				
Sherri Anderson-Hudgins	Project Manager	√	√	√		
Richard Byrd	Safety Specialist	√	√	√	√	√
David Becker	Safety Specialist		√			√
Scott Bradley	Technical Manager	√			√	
Kellie Williams	Industrial Hygienist	√				
Deb Edwards	Geophysicists		√	√		
Bob Selfridge	Geophysicists		√	√		
OMAHA USACE PERSONNEL						
Tom Zink	Project Manager Omaha USACE	√				
HOLLOMAN AIR FORCE BASE PERSONNEL						
David Scruggs	Environmental Manager	√	√	√	√	√
ZAPATA ENGINEERING PERSONNEL						
Larry Hudgins	Project Manager	√	√	√	√	
David Smith	Senior		√	√		
David Wolf	Technical		√	√		
Paul Bechtel	SUXOS	√	√	√	√	
Terry Farmer	UXOSO	√	√	√	√	
Jerry Krieger	UXOQC	√	√			
Ruthann Baur	Contract Officer	√				
Mike Matthews	UXO Tech III	√	√	√	√	
Walter Hildreth	UXO Tech III	√	√	√	√	
Chris Brown	UXO Tech III	√	√	√	√	√

PERSONNEL	ROLE	SITE PREP RCWM SURVEY/ DA SURVEY	GEOPHYSICAL – OE REMOVAL		INTRUSIVE INVESTIGATION	SITE RESTORE
			GEOPHYSICAL PROVE-OUT	GEOPHYSICAL SURVEY & REACQUISITION		
Val Valdez	UXO Tech III	√	√	√	√	√
Bobby Sammons	UXO Tech II	√	√	√	√	√
Anthony Locklear	Equip Operator	√	√	√	√	√
Brad Kuntz	Env Tech	√	√			
Nathan Reel	Env Tech			√	√	
US ARMY TECHNICAL ESCORT UNIT (TEU)						
Mike Rehmert	Project Manager	√	√	√	√	
Ryan O'Connell	Supervisor	√	√	√	√	
Field/PDS Crew	Field Technicians	√	√	√	√	
EDGEWOOD CHEMICAL BIOLOGICAL CENTER (ECBC)						
Chris Keiser	Project Manager	√	√	√	√	
Laboratory Technicians	Analytical Services	√	√	√	√	
Air Monitoring Crew	Field Technicians	√	√	√	√	
AMERICAN MEDICAL RESPONSE, INC. (AMR)						
Cliff Halls	Manager	√	√	√	√	
Joel Darby	Supervisor	√	√	√	√	
EMTs/Medics	EMTs/Medics	√	√	√	√	
CONSTRUCTION SURVEYING SERVICES, INC.						
Steven Sandoval, PS	Surveyor	√	√	√	√	

2.0 OE/RCWM INVESTIGATION AND REMOVAL

2.1 PROJECT BACKGROUND

In December 2003, ZAPATAENGINEERING, P.A. was tasked to perform an Ordnance/Explosive (OE)/Recovered Chemical Warfare Materiel (RCWM) removal action in Area DP-64, Holloman Air Force Base, New Mexico. This operation was completed by performing a geophysical survey using a multi-sensor towed array detection system (MTADS) consisting of three Geonics EM61 time domain electromagnetic (TDEM) coils. A Fisher magnetometer (MAG) was used by the geophysical survey team for anomaly reacquisition and a team of UXO technicians performed excavation.

2.2 PHYSICAL SITE INFORMATION

2.2.1 Topography

2.2.1.1 Holloman AFB is located in the Tularosa Basin which is an internally-drained basin situated between two north-south trending mountain ranges – the San Andres Mountains on the west and the Sacramento Mountains on the east. The average elevation at Holloman is 4,086 feet.

2.2.1.2 The soils on the main base are basin fill deposits with a high gypsum and salt content, primarily due to the eastern migration of gypsum sands from White Sands Missile Range and White Sands National Monument. None of the soils types found on base are very productive, due to the high gypsum and salt content, and all are highly subject to both wind and water erosion when the vegetation is sparse or the soil is exposed (Hawley, 1986).

2.2.2 Climate

2.2.2.1 Holloman AFB is located in a semi-arid region within the northern portion of the Chihuahuan Desert. Its climate resembles other semi-arid regions with warm to hot summer days, cool night and mild winters. December through March are the coolest months with average temperatures ranging from 41-46o F. Freezing temperatures are common from late November through early March. Snowfall averages approximately 4.8 inches annually and occurs primarily between the months of December and February. July is typically the hottest month, with average temperatures of 81o F and mean maximum temperatures of 93o F. Daytime temperatures in the summer commonly reach 100o F. Evapotranspiration is usually high due to the dry air, large daily solar radiation, seasonally high winds, and warm temperatures.

2.2.2.2 Seasonal fluctuation in precipitation rates is a result of prevailing wind directions, which can bring in frontal storms from the north or the Pacific or Caribbean systems. Holloman averages 8.58 inches of rainfall annually. Nearly half this amount falls within the months of July through September, known as the summer monsoons. Monsoon thunderstorms are generally short in duration and high in intensity. Occurrences are highly variable from year to year and one or two short-term events may contain a large percentage of the net annual precipitation. Low precipitation amounts and high rates of evapotranspiration deplete the soil of moisture, making summer rains critical to the survival of plants.

2.2.2.3 Winds are seasonally variable, occurring at peak speeds in the spring. When the ground heats, intensifying convection, this diverts stronger winds aloft down to the ground,

where they maintain horizontal momentum. The highest wind speeds occur from April through July, reaching median wind speeds of 25 mph. At 13-18 mph, velocities are great enough to pick up large amounts of dust, and winds from 32-46 mph will break twigs from trees. During the month of May, wind velocities are greater than 17 mph approximately 90% of the time. Prevailing winds are from the west from February to June. During the months of July through September the prevailing winds are south to southeasterly and from October through January winds are from the north (Bennett 1986).

2.2.3 Overall Site Accessibility and Impediments

Site accessibility was normally unimpeded through the duration of the project. Although the ground surface was very fine silty sand, the teams were able to transverse the site and work safely. The severe heat and intense sun precluded the field teams from working in the afternoon hours. Due to the heat and solar radiation (sunshine) the work hours were adjusted to start daily operations at 0530 hours to take advantage of the coolest part of the day. There was only one severe rainstorm that halted site operations for one day.

2.3 AREA OF INVESTIGATION

2.3.1 The area of investigation, Area DP-64, comprises approximately 5.5 acres contained in a 400-feet X 600-feet rectangle located 150 feet north and east of the main Base landfill (opened in 1958). As indicated above, two 40 ml ampoules containing dilute chemical agents were found at the area. The ampoules were discovered following ground surface disturbance during a re-vegetation program. Additionally, surface burn areas containing the remnants of incendiary bomblets were discovered at the site. A six-foot chain-link fence topped with three strands of barbed wire surrounds Area DP-64. Inside the outer fence was an inner fence constructed of various materials, e.g., plastic snow fence, goat wire, chicken wire, barb-wired, etc. attached to steel pickets.

2.3.2 Area DP-64 consists of gently rolling terrain with non-random patterns of desert vegetation. The ground surface was comprised of well-drained soils and exposed gypsum. The soil has a light brown surface layer of very fine sandy loam from one to 13 inches deep. White gypsum mixed with a brown or pink fine sandy loam underlies the surface soils and extends deeper than 60-inches.

2.3.3 The temperatures on site ranged from the mid-30o F in the early morning hours to temperatures exceeding 100o F on some afternoons. Work hours (0530 to 1330 hours) were adjusted to take advantage of the coolest part of the day. The median wind speed during this part of the year is 25 mph with some days having wind speeds exceeding 40 mph. The prevailing wind direction during May, June and July are south to southeasterly (Bennett 1986).

2.3.4 Precipitation was almost non-existent with the exception of one day, during which a long, highly intense storm front caused a halt to field activities.

2.4 MAJOR WORK STAGES

2.4.1 The site work consisted of several work stages:

- Site Mobilization and Preparation (included Huntsville and DA Pre-Op surveys)
- Surface Clearance and Debris Removal
- GPO

- Geophysical Survey with Digital Geophysical Mapping (DGM) of grids.
- Intrusive Investigation
- Scrap/Waste Management
- Restoration of Site
- Quality Control/Assurance

2.4.1 Site Mobilization, Preparation and Training

2.4.1.1 ZAPATAENGINEERING mobilized to Holloman AFB and established a field office in two office trailers outside of the Minimum Separation Distance with space sufficient to accommodate all participants involved in the project. These participants included personnel from ZAPATAENGINEERING, Tech Escort Unit (TEU), Edgewood Chemical Biological Center (ECBC), the USAESCH Safety Specialist, and the EMTs supporting the field operations. Utility hookups were also provided for ECBC Mobile Analytical Platform and the Personnel Decontamination Station (PDS). Heavy lift equipment was contracted to off-load ECBC and TEU equipment upon arrival to the site. A storage trailer was positioned adjacent to the office trailers for additional storage of equipment and materials and a refueling point and storage facility was established within the Command Post area.

2.4.1.2 ZAPATAENGINEERING subcontracted a local construction company in Alamogordo, NM to build a compound to house the Interim Holding Facility (IHF) in the event more RCWM was recovered. The IHF compound was built to specification as outlined in Appendix F, PMNSCM Interim Holding Facility Plan, of the CSS. The specifications applied to electrical service, fencing, physical security, roadways, and drainage. A heavy lift crane was brought onsite to off-load the IHF from a lowboy trailer and position it within the IHF compound for anchoring and connection of electrical service.

2.4.1.3 A local professional land surveyor licensed in the State of New Mexico was subcontracted to install two horizontal control monuments with an accuracy of Class 1, Third Order or better using the metric system and based on the North American Datum of 1983 (NAD 83), UTM Grid System. The subcontracted surveyor established the grid nodes every 100-feet on the outside of the fence surrounding Area DP-64 as they were not allowed to enter the investigative area due to the associated hazards. Additionally, the surveyor established the GPO area grids and located both horizontally and vertically three distinct points on 24 individually emplaced items as well as ground surface elevation above each item. ZAPATAENGINEERING provided UXO technicians for all survey operations to ensure the locations free of subsurface metallic anomalies.

2.4.1.4 ZAPATAENGINEERING conducted intensive training following mobilization and site setup to ensure that all participants understood their portion of the project (roles and responsibilities), the proper chain-of-command for operations, safety and health, emergency actions and procedures, and the proper lines of communication. Training classes were given on air monitoring instrumentation; sampling techniques; processing through the PDS; selection and dress-out procedures for Personal Protective Equipment (PPE); and, other health and safety issues.

2.4.1.5 Once the USAESCH Safety Specialist determined that all participants were adequately trained a survey team from Huntsville was called upon to conduct a table-top exercise to ensure the effectiveness of the responses and to identify deficiencies or omissions in the emergency response process and establish continuity and coordination among response participants. All deficiencies noted during the Huntsville survey and tabletop exercise were immediately corrected. Those areas where response actions were weak or lacking were identified and additional training was provided to the response teams.

2.4.1.6 Upon successful completion of the Huntsville survey, a team from the Department of the Army (DA) arrived onsite to administer a DA Pre-Operational (Pre-Op) inspection of personnel, equipment and materials, and response actions to ascertain that that personnel are adequately trained and the necessary equipment/materials are on-hand to perform the work assignments and that work procedures and safety controls are appropriate for the tasks to be performed. As shortcomings and deficiencies were identified they were immediately corrected on the spot or the necessary actions were immediately initiated to remedy these situations.

2.5 SURFACE CLEARANCE AND DEBRIS REMOVAL

2.5.1 ZAPATAENGINEERING performed an OE/UXO surface clearance and debris removal on Area DP-64. As part of the surface clearance an inner fence constructed of various materials attached to metal pickets was removed to facilitate the subsequent geophysical survey with minimal probability of encountering OE/RCWM items. Also during the surface clearance small amounts of vegetation that would hinder the geophysical survey were removed and staged for later disposal.

2.5.2 The USAESCH Safety Specialist, SUXOS, UXOSO and UXO Team Leaders entered Area DP-64 to evaluate site conditions in order to formulate a plan of action for the removal of the inner fence for access to conduct the surface clearance. Immediately upon this initial entry, an intact glass ampoule from a CAIS kit was encountered lying on the ground surface. Upon closer inspection of the immediate area broken shards of glass from other ampoules were also discovered. All items were conspicuously marked and personnel backed out of Area DP-64. The USAESCH Safety Specialist immediately notified the USAESCH Project Manager. Further site preparation within Area DP-64 was halted and the area was secured pending an evaluation by USAESCH.

2.5.3 After evaluating site conditions at the time of discovery of the intact glass ampoule, it was decided that TEU would enter Area DP-64 to further inspect the ampoule for markings, package the ampoule in accordance with prescribed procedures, and transport the packaged item to the IHF for storage pending final disposal. ECBC personnel entered the site to set up MINICAMS and DAAMS tubes air monitoring instrumentation to monitor the perimeter of the work area during recovery activities. The glass shards from the broken ampoules were policed from the ground surface and placed in a “kill bucket” filled with bleach. After TEU’s departure from Area DP-64 with the packaged intact ampoule, ZAPATAENGINEERING reentered the site to collect two soil samples: one from under the intact ampoule and one sample from the area around the shards of glass. A chain-of-custody was initiated and the samples were transferred to ECBC for agent analysis and subsequent shipment of samples to the ECBC off-site laboratory in Edgewood, MD for low-level analysis for agent and agent breakdown products. Analytical results indicated negative results for chemical agents and agent breakdown products.

2.5.4 Following removal of the ampoule and soil sampling, the clearance team returned to Area DP-64 to prepare the area for the surface clearance by removing the inner fence and selected vegetation that would hinder the geophysical survey. The grid lines were then established within the outer fence by pulling a measuring tape between the grid nodes that were plotted and staked outside Area DP-64 by the surveyor. A total of 24 grids (100-feet X 100-feet) were established along north/south and east/west azimuths within Area DP-64. Portions of the grids extended outside of the outer fence line and would not be included in the geophysical survey and intrusive investigation. See Figure B-4, Appendix B (Site Maps) for Area DP-64 grid demarcation.

2.5.5 During the surface clearance and debris removal the following items were recovered from the ground surface of Area DP-64:

- Blasting caps, electric 17 each
- Smoke pot components (no energetics)
- M69 incendiary bomb components (no energetics)
- Scrap metal, 50 lbs.

2.6 GEOPHYSICAL PROVE-OUT (GPO)

The GPO was designed to demonstrate the ability of different geophysical instruments, positioning methodology, sensor deployment, data flow, and data processing procedures. Four instruments were tested during the GPO. These include an electromagnetic (EM) system, a MAG system, and EM ground conductivity system, and a ground penetrating radar system (GPR). The objectives of the geophysical survey were to locate burial trenches indicative of previous "trench and fill" disposal operations, identify other ground disturbances suggestive of former burial pits and locate potential K951/K952 CAIS (pigs) or their associated nine-inch metal cans. The GPO was conducted in accordance with requirements of Data Item Description (DID) OE-005-05A.01. Detailed procedures and results are included in the "Geophysical Prove Out Report for Holloman Air Force Base Utilizing MTADS EM-61, MAG, EM31 and GPR, Blackhawk GeoServices", Appendix D.

2.6.1 Electromagnetic System.

The MTADS EM-61 system consists of three one-meter by one-meter coils; left, right and center. The left and right coils are placed adjacent to one another and the center coil is centered on top of the midpoints between the left and right coils. This results in a sampling width of two meters (6.56 feet). A Mobile Instrument Platform (MIP) towed the MTADS EM-61 system and sensor positioning was achieved by using a Trimble 4700 Global Positioning System (GPS) Real Time Kinematic (RTK) system. Results from the GPO indicate that seeded items buried from one (0.3.0 m) to five (1.52 m) feet below ground surface resulted in an average response of 109 millivolts (mV) and range from approximately 5 to 491 mV using line spacing of 6.56 feet (2 m).

2.6.2 Magnetometer System

The MTADS MAG Cesium-vapor MAG array system is able to detect ferrous (i.e., iron-containing) metals. The array consisted of eight MAGs linearly aligned normal to the direction of travel with a sensor separation of 0.25 meters (0.082 feet). The sampling width of the MTADS MAG system was two meters and was towed by a MIP. Sensor positioning was achieved by using a Trimble 4700 GPS RTK system. A GeoMetrics G858 base station MAG was established to the south of the GPO grid and recorded data at a rate of two Hertz (Hz).

Results from the GPO indicate that seeded items buried from one (0.305 m) to five (1.52 m) feet below ground surface resulted in an average response of 83.8 nanoteslas (nT) and range from approximately 5 to 211 nT. It should be noted that five of the 18 seeded items were not detected using the MAG system.

2.6.3 EM Ground Conductivity System

The EM31 was run in both north/south and east/west directions, over the trenches dug at the north-end of the GPO. The EM31 system was unable to detect any difference in electrical conductivity between the disturbed and undisturbed ground.

2.6.4 Ground Penetrating Radar (GPR) System

The GPR system was used to collect data over the GPO grid known to contain two trenches with disturbed soil. Layer discontinuity was visible in some of the GPR files, however, no trend was apparent from profile to profile. This method did not successfully locate the areas of disturbed ground (trenches). Glass ampoules (12) were buried at various depths and orientations in a grid measuring approximately seven to 17 feet. Data were collected with a 900 mHz antenna and 15 centimeter (0.5 foot) line spacing. The GPR detected all of the vials to a depth of 15 cm (0.5 foot). Wide ranges of soil conductivities were measured at the site. Therefore, it was determined that the depth of penetration of the GPR would vary too greatly over the area to be an effective instrument in this case.

2.6.5 Data Processing and Target Selection

The MTADS Data Analysis System (DAS) was used to pick potential targets using data from the lower coil of the EM instrument. A peak-picking algorithm was applied to the gridded data and filtered as an initial step in target selection. After evaluation of the MTADS EM61 data collected during the GPO, the project team determined a threshold value of 17 mV to be the minimum response criteria for target selection. Anomaly characteristics of plan-view, profile shaped, EM signal amplitudes as well as anomaly discreteness were considered in anomaly selection. Each of the target anomalies selected by the software were scrutinized by the project geophysicist and evaluated as to the validity and position reported by the software. Additionally, anomalies that were not selected by the DAS, yet deemed to represent a target, were picked manually.

2.7 GEOPHYSICAL INVESTIGATION – DIGITAL GEOPHYSICAL MAPPING (DGM) OF DP-64

2.7.1 Using techniques demonstrated during the GPO and approved by USAESCH, ZAPATAENGINEERING and its subcontractor, Blackhawk GeoServices (Blackhawk), conducted geophysical surveying, mapping and evaluation of the DP-64 site (400-feet x 600-feet). No additional support facilities were required and the PDS was not used for this portion of the task. Daily field surveying followed a systematic approach for quality control and data acquisition. Equipment warm-up, functional tests, zero calibration and base station setup were performed as required. Data acquisition began after reviewing the performance test data to ensure that the equipment was operating properly. The objectives of the geophysical survey at Area DP-64 are to:

- Locate burial trenches indicative of previous “trench and fill” disposal operations.
- Identify other ground disturbances of former burial pits.
- Locate potential K951/K952 CAIS (pigs) or their associated nine-inch metal cans.

2.7.2 The survey area extended well beyond the small area where the glass ampoules were observed on the ground surface. Within the area of investigation, geophysical data were collected using the MTADS EM-61 electromagnetic system along parallel lines spaced nominally at two meters or less ensuring 100 percent surface coverage to adequately assess each of the two potential disposal areas. The instruments collected data continuously at a rate of 16 samples per second. The distance between sample points is dependent upon the sample rate and the speed at which the operator moves during acquisition. The instruments used for this survey were configured to achieve a sample spacing of approximately 0.28 to 0.45 foot along each of the survey lines.

2.7.3 Based on the initial site visit it was expected that the trench and fill deposit areas may contain metal objects (e.g., munitions). There were no known subsurface disposal features at the DP-64 Area. DGM was used to locate and assess the extent of potential subsurface disposal features at the DP-64 Area site because these methods can detect both ferrous and nonferrous buried debris and also potentially detect areas of ground disturbances. Items such as individual glass ampoules cannot be detected using DGM. However, if disposal of the ampoules occurred in the same location as metallic debris or in an area of ground disturbance large enough to be detected, then the geophysical survey may indicate locations where intrusive remediation should be considered. The QC/QA criterion for the DP-64 Area was a nine-inch metal can (five and one half inches in diameter). The nine-inch metal can is the size and shape of an individual CAIS set; each "CAIS pig" contains four (4) CAIS set cans. This task was conducted in accordance with DID OE-005-05.01.

2.7.1 DGM Survey Results Summary

2.7.1.1 Data were collected over the survey area on June 8, 2004. See Appendix D for color grid contour map of the MTADS EM61 data collected over the survey area. These data are projected in NAD83 UTM Zone 13N coordinates (meters). A total of 4.6 acres were surveyed with the MTADS EM61 array. See Appendix D for Geophysical Investigation Report.

2.7.1.2 Additional data were collected on June 9, 2004 for the purpose of covering data gaps in the existing DGM coverage. Prior to collecting these data, the equipment was modified by exchanging the center coil of the EM towed array system. Quality control tests were completed after the equipment change and a portion of the GPO grid was collected again to ensure the functionality of the equipment. It was not possible to collect data over a few of the areas where data gaps were evident. Blackhawk marked the data gaps using the Trimble DGPS system and non-metallic pin flags. These locations were investigated with hand-held EM (Fisher) and Mag (Schonstedt) instruments.

2.7.2 Target Section and Relocation Summary.

2.7.2.1 The EM61 data from the MTADS were used to identify the metal targets. A preliminary total of 136 individual metal targets were identified. These targets were prioritized, seven additional targets were selected below the 17-millivolt (mV) minimum response threshold and one was removed as a result of a dual target pick. Blackhawk relocated a total of 142 anomalies. These locations were marked on the ground with non-metallic pin flags using DGPS location methodology.

2.7.2.2 After Blackhawk had relocated 142 targets, 19 additional targets were removed from the target list associated with the surrounding fence and other cultural features. These 19 targets were removed following discussions with the project team including USAESCH. Therefore, the total number of anomalies intrusively investigated as a result of the DGM was 123 (142 relocated minus 19 targets associated with cultural features). Results of the intrusive investigation are in Appendix E (Anomaly Dig Sheets).

2.8 INTRUSIVE INVESTIGATION

2.8.1 The intrusive investigation of area DP-64 began June 14, 2004. Under the guidance of the SUXOS, two teams consisting of a Team Leader (UXO Technician III) and two other individuals (an UXO Technician II and an equipment operator) were used to conduct the excavation of all the anomalies selected for investigation. Monitoring procedures were conducted by ECBC using MINICAMS and DAAMS tubes surrounding the excavation sites during all intrusive activities. Dig teams verified the removal of the anomaly source using Schonstedt® MAGs.

2.8.2 The UXO Tech IIIs provided a detailed accounting of each targeted anomaly on dig sheets. This accounting included the type, depth, and dimensions, and weight of items located at each flagged anomaly. Digital photographs were taken of every subsurface anomaly investigated and all OE and RCWM related material found on the surface.

2.8.3 At anomaly 103, two complete and five partial M69 incendiary bombs were located at a depth of six inches. At anomaly 120, seven M3 grenade igniters were located at a depth of eight inches. These items were recovered by Holloman AFB Explosive Ordnance Disposal (EOD) personnel for disposal.

2.8.4 At six other anomaly locations (108, 109, 112, 114, 137, 142) approximately 172 M69 bomb bases were located at depths of 4 to 24-inches. These items were treated as OE scrap.

2.8.5 The SOW required an intrusive investigation of the immediate area where the initial ampoules and glass were discovered. This investigation was to consist of a minimum area of 10-foot x 30-foot to a depth of at least 12-inches. After the discovery of an additional ampoule on the surface, on site supervisors increased the area to 10-foot x 60-foot to encompass the entire surface area where RCWM was encountered.

2.8.6 Intrusive investigation of the 10-foot x 60-foot area began on June 24, 2004. The initial investigation of the top two inches of soil began at the northern edge and extended approximately 45 feet to the south. During this dig, two ampoules were located, packaged, and stored. Anomaly 99 was marked inside the southern 15-foot section of the 10-foot x 60-foot area, in close proximity to the broken ampoules found on the surface. The source of the magnetic signature was identified as deteriorated CAIS can material. Nine ampoules were initially found within the metallic debris. During the process of recovering and packaging the ampoules, TEU personnel uncovered one additional ampoule, which was subsequently packaged and stored in the IHF. When excavation of the 10-foot x 60-foot area continued two more ampoules were found approximately two feet south of the anomaly 99 flag at a depth of 6-8 inches.

2.8.7 The remainder of the 121 located anomalies consisted of various items of scrap, probably attributable to the close proximity to the landfill. Anomaly 139 was a "no find".

2.8.8 The intrusive investigations of Area DP-64 concluded on July 9, 2004.

2.9 SCRAP MANAGEMENT

OE-related scrap certification was an ongoing process throughout the project. All OE-related scrap was inspected before removal from the site. A visual inspection process conducted by the UXO Technicians, SUXOS and UXOQC confirmed that all OE related scrap was free of any explosive contamination and explosive residue. Three five-gallon buckets of OE scrap were certified and sealed with a numbered seal. A Department of Defense (DD) Form 1348-1a was completed for each container before release to the scrap dealer (Appendix F). Disposal documentation receipts were generated identifying the day of off-site removal, approximate scrap weight and signature of the recipient.

2.10 DISPOSAL OPERATIONS

2.10.1 Live ordnance items encountered during the excavation of DP-64 were immediately recovered by the Holloman AFB EOD team for disposal.

2.10.2 The Portable Chemical Agent Assessment System (PCAS) was used by ECBC personnel on 12 July 2004, to non-intrusively evaluate the chemical contents of the recovered 15 ampoules and identify as either industrial compounds (phosgene or chloropicrin in chloroform) or chemical agent (mustard or lewisite in chloroform). The instrumentation and materials used for the evaluation was the InPhotote Raman Spectrometer (Model INP-3b-785LR, S/N 5004); Raman Probe with 25-meters of fiber optic cable; laptop computer; CAIS sample holder; and Tylenol calibration standard. Seven of the ampoules were characterized as industrial compounds, packaged, and shipped off-site on August 4, 2004 for disposal.

2.10.3 Four of the remaining eight ampoules were identified as containing lewisite and chloroform. The other four ampoules were not positively identified but considered consistent with mustard or lewisite. All eight ampoules were neutralized by Technical Escort Unit personnel on September 18 – 20, 2004, utilizing the Self-contained Chemical Agent Neutralization Set (SCANS). The SCANS were packaged and shipped off-site on September 22, 2004 for disposal.

2.11 SOIL SAMPLING

2.11.1 Surface Sweep

ZAPATAENGINEERING collected one soil sample consisting of two splits at each of the two areas where RCWM was found during the investigation of the surface area. The soil samples were taken on May 25, 2004 and one split from each sample was subjected to headspace analysis on site to ensure its suitability for safe shipment. The remaining two splits were subsequently shipped to ECBC's laboratory for analysis.

2.11.2 Intrusive Investigation

ZAPATAENGINEERING collected three soil samples within the excavation site of the 10 foot x 60 foot investigative area. The first sample was obtained from the location of the two ampoules located in the northern 45-foot section of the area. The second sample was taken from the

vicinity of Anomaly 99, where a total of ten ampoules were recovered. The third sample was taken approximately two feet away where an additional two ampoules were located. Each sample was divided into two splits. A chain-of-custody was initiated and the samples were transferred to ECBC for agent analysis and subsequent shipment of samples to the ECBC off-site laboratory in Edgewood, MD for low-level analysis for agent and agent breakdown products. Analytical results indicated negative presence of chemical agents and agent breakdown products.

2.12 PROJECT QUALITY CONTROL

2.12.1 ZAPATAENGINEERING performed Quality Control (QC) checks on all phases and types of work done on the project. QC procedures were implemented throughout all phases of the project, including document review and control, data review/analysis and evaluation of areas in the field. All grids passed government Quality Assurance checks per the applicable criteria.

2.12.2 ZAPATAENGINEERING's Project Geophysicist performed independent analyses of the geophysical data collected and processed. He designed the GPO plot to include a "blind test" by burying items with the location unknown to the geophysical teams. He was on-site during the prove-out and during geophysical data collection.

2.12.3 Completed daily journals were turned over to the UXO Quality Control Specialist (UXOQCS) at the end of each workday. The UXOQCS verified the completeness of each journal before it was transferred to the SUXOS for data entry.

2.12.4 ZAPATAENGINEERING's QC Officer inspected each intrusive investigation prior to the relocation of ECBC's point monitoring equipment. The inspection consisted of verifying the identification of each anomaly, checking the excavated area with a Schonstedt® MAG, and taking a digital photograph of the recovered contact(s). The USAESCH quality assurance inspection was conducted concurrently.

2.13 RCWM/OE SUMMARY

ZAPATAENGINEERING, in accordance with the Scope of Work dated 17 September 2003, performed a detailed search of the surface area of DP-64 and 123 subsurface excavations. A total of 15 CAIS Kit components were recovered, packaged, and stored. Seventeen electric blasting caps, seven M3 grenade igniters, and seven complete and partial M69 incendiary bomblets were recovered by Holloman AFB EOD personnel for disposal. Condensed daily SUXOS reports documenting site activities are contained in Appendix H. Copies of CEHNC Form 948 are contained in Appendix G2.

3.0 DOCUMENTATION

The following documentation was generated during the Removal Action at Area Dp-64, Holloman Air Force Base, New Mexico:

- Appendix C – GPO Letter Report
- Appendix D – Geophysical Survey Report
- Appendix E – Anomaly Dig Sheets
- Appendix F – Scrap Management Forms and Analytical Results
- Appendix G – Quality Control/Quality Assurance Documentation
- Appendix H – SUXOS Documentation (Daily Reports)
- Appendix I – Safety Documentation
- Appendix J – Photographs
- Appendix K – Cost Breakdown Summary

4.0 FINANCIAL BREAKDOWN

The Final Breakdown of the Time and Material tasks can be found in Appendix K.

5.0 SUMMARY

5.1 The area identified as site DP-64 is located on Holloman AFB in Otero County, New Mexico. ZAPATAENGINEERING, as the prime contractor, utilized a team approach consisting of in-house capabilities, government agencies, and subcontractors to conduct the RCWM and ordnance removal action. The removal action included site preparation and setup, pre-operational inspections, surface sweep, geophysical survey and anomaly reacquisition/investigation, intrusive removal, scrap management, and quality control checks. All task elements for this project have been completed in accordance with the Task Order/Delivery Order Statement of Work (SOW) and the approved Work Plan.

5.2 A total of 123 single point anomalies within 24 grids were investigated throughout the entire project. All cleared excavations passed quality control (QC) checks and government quality assurance (QA) evaluation prior to UXO personnel demobilization. Intact CAIS Kit ampoules (15) were packaged, stored in the IHF, analyzed, and properly disposed. All OE items that were recovered were turned over to Holloman EOD personnel for final disposal. All OE scrap was inspected, certified, verified, and transferred to a scrap dealer.

5.3 No archaeological or environmentally sensitive areas were encountered. There was no damage to utilities or facilities in the performance of this investigation. The removal of natural vegetation was kept to a minimum and no re-vegetation or re-seeding was necessary. Table 5-1 summarizes site-specific exposure data, as reported in monthly progress reports.

TABLE 5-1 EXPOSURE DATA

Phase I

	Total Cumulative
Hours Worked	2,882.75
Number Employees On Site	16
Accidents/Illnesses	0
Lost Work Hours Due to Accidents/Illnesses	0
Number of Vehicles	7
Miles Driven	9,446.6

6.0 CONCLUSION

6.1 The surface sweep and intrusive investigation of the 24 grids resulted in: 31 MEC items recovered and transported off-site for disposal by USAF EOD personnel; 15 intact CAIS Kit ampoules recovered, packaged and stored until neutralization/destruction; 180 lbs of MEC scrap inspected, certified, verified, and transferred for disposal; one pound of broken CAIS kit glass recovered, neutralized, and disposed of; and 270 lbs of metal scrap inspected and determined to be non MEC/RCWM-related.

6.2 Since the MEC/RCWM items located were confined to a three-grid area within the 24 grids at Area DP-64, it is not anticipated that there is a widespread threat of MEC or RCWM in the area surrounding DP-64, especially since the surrounding acreage has been disturbed by the construction of roads and a capped landfill is adjacent to the site.

6.3 Based on the lack of historical data concerning the disposition of CAIS materials shipped and stored at Holloman and the fact that the components recovered represent only a portion of a complete CAIS set, the possibility of additional RCWM on Holloman exists.

7.0 RECOMMENDATIONS

The following recommendations are provided based on the field activities conducted during the removal action.

- All entities involved with the origination and approval of the CSS and Work Plan should ensure that these documents are logical, workable, and are not self-contradictory, and do not contradict with themselves or the publications which they reference. Making major corrections to the plan after the mobilization of field personnel causes delays and places undue burdens on the field personnel.

- It is highly recommended that RCWM field operations in desert areas not be conducted in late spring or summer seasons. The wearing of impermeable clothing in intense heat presents additional safety concerns and decreases productivity resulting in schedule delays and additional costs.

8.0 REFERENCES

Department of Army

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Department of Defense

2002 Ammunition and Explosives Safety Standard 6055.9-STD (Rewrite), 11 December 2002.

U.S. Army Corps of Engineers

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2000 Manual ER 385-1-92, Safety and Occupational Health Requirements for Hazardous, Toxic, and Radioactive Waste Activities, September 1, 2000.

2001 Engineering and Design - Requirements for the Preparation of Sampling and Analysis Plans, EM 200-1-3, 01 February 2001.

2001 Engineering Pamphlet (EP) 75-1-3, Recovered Chemical Warfare Materiel (RCWM) Response

2002 Safety Submission for the Ordnance and Explosives Surface Sweep and Clearance, Geophysical Survey, and Intrusive Remediation, Site DP-64, Holloman Air Force Base, New Mexico, July 2002

2003 CEHNC Engineer Regulation (ER) 385-1-92, Safety and Occupational Health Document Requirements for Hazardous Waste Remedial Actions, 01 July 2003.

2004 Final Work Plan, Ordnance and Explosive Recovered Chemical Warfare Materiel Removal Action, Holloman Air Force Base, New Mexico, dated June 2004, Contrct No, DACA87-00-D-0034, Task Order 0019.

2004 Letter, Chemical Warfare Design Center for Ordnance andExplosive Direcotrate, dated 26 May 2004, Subject: Clarification to the CSS for Pewrsonnel Protective Equipment (PPE) Ensembles, Holloman Air Force Base, Contract No. DACA-87-00-D-0034, Task Order 0019.

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U.S. Army Product Manager for Chemical Demilitarization

1997 System Safety Program Plan for Chemical Warfare Materiel Handling at Small Burial Sites. March.

2000 Memorandum, DACS-SF, 29 Feb 2000, subject: Approval of Safety Submissions for Non-Stockpile Chemical Warfare Material (CWM) Response Activities.

2002 Interim Storage Facility System Installation Plan for Non-stockpile Project Work at (Installation/Investigation Site), Draft, August 2002.

2004 US Army Chemical Materials Agency Program Manager for the Elimination of Chemical Weapons, Product Manager for Non-Stockpile Chemical Materiel, Destruction Plan for Recovered K951 Chemical Agent Identification Set Items Using the Single Chemical Agent Identification Set Access and Neutralization System at Holloman Air Force Base, New Mexico, Final Revision 1, August 2004.

APPENDIX A
SCOPE OF WORK

FINAL

SCOPE OF WORK

ORDNANCE AND EXPLOSIVE RECOVERED CHEMICAL WARFARE MATERIEL REMOVAL ACTION

HOLLOMAN AIR FORCE BASE NEW MEXICO

Contract: DACA 87-01-D-0034, TO 0019
Date: 7/29/2004

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FINAL

SCOPE OF WORK
FOR
ORDNANCE AND EXPLOSIVE
RECOVERED CHEMICAL WARFARE MATERIEL REMOVAL ACTION
HOLLOMAN AIR FORCE BASE
NEW MEXICO

JULY 29, 2004

1.0 BACKGROUND AND GENERAL SCOPE OF WORK

1.0.1 The Work required under this Scope of Work (SOW) falls under the Installation Restoration (IR) program. Recovered Chemical Warfare Materiel (RCWM) was discovered on an active Department of Defense installation, specifically, within an area identified as DP-64 located on Holloman Air Force Base (AFB), in the state of New Mexico.

1.0.2 RCWM is a safety hazard and, if present, constitutes an imminent and substantial endangerment to on-site personnel. This action will be performed under the Resource Conservation and Recovery Act Subtitle (C) and the National Contingency Plan (NCP).

1.0.3 One ampoule each of dilute Levinstein mustard (H) and dilute Lewisite (L), originating presumably from a K951/K952, Instructional M1 Set, Chemical Agent Identification Set (CAIS), were discovered at Area DP-64 in March 2000. Additionally, three circular surface-burn areas containing the remnants of incendiary bomblets (M69X or M74) were discovered in the area.

1.0.4 This project includes the following distinct phases:

- Perform a surface sweep/clearance of ordnance and explosives (OE), ordnance related scrap and CAIS related items including glass fragments in Area DP-64.
- Perform a geophysical survey and data analysis to identify and delineate areas or features that may warrant intrusive investigation. The target objectives are:
    - Large burial trenches indicative of previous "trench and fill" disposal operations;
    - Other ground disturbances suggestive of former burial pits; and
    - K951/K952 CAIS (pigs) or their associated 9-inch metal cans.
- Perform a removal action based on the results of the surface sweep/clearance and the geophysical survey.

1.0.5 Chemical Agent Identification Sets falls under the category of RCWM. Foster Wheeler Environmental Corporation, under a Total Environmental Restoration Contract (TERC) that was entered into with the U.S. Army COE, Omaha District, has prepared a Safety Submission (SS), which includes specific plans for activities to be conducted at Area DP-64. Throughout the remainder of this Task Order, Foster Wheeler Environmental Corporation functioning under this TERC instrument is referred as the "TERC Contractor". The contractor, which shall perform tasks of this scope of work

described herein, shall enter into contract with CEHNC, and is referred throughout this Task Order as the "CEHNC Contractor". Discussion of activities to be performed by the TERC Contractor and other parties, e.g., Edgewood Biological Chemical Command, Technical Escort Unit, etc., within this scope of work is necessary to delineate critical relationships between parties, and provide amplifying information to facilitate proposal preparation.

1.0.6 The CEHNC Contractor shall conduct intrusive work with Technical Escort Unit (TEU) and Edgewood Biological Chemical Command (ECBC) in support. ECBC shall perform the field air monitoring for agent and the headspace analysis for agent using a Mobile Analytical Platform (MAP). It is assumed that agent and agent breakdown product low-level analysis will be conducted at ECBC's offsite laboratory. The CEHNC Contractor will pack and ship the samples, accordingly. If suspect glassware or containers are determined or suspected to contain agent, TEU shall be responsible for assessment of the item, and packaging and transportation of the item to the Interim Holding Facility (IHF) with the CEHNC Contractor in support.

1.0.7 Explosive configured chemical warfare munitions are not suspected to exist at Area DP-64. If a suspect explosive configured chemical munition item is found during the field operation, the CEHNC Contractor shall support TEU. TEU shall be responsible for the assessment, packaging, and transportation of ordnance items suspected to contain agent.

1.0.8 Explosive configured conventional ordnance is suspected to exist at Area DP-64, i.e., incendiary bomblets. In the event a suspect explosive configured munition is found, the CEHNC Contractor shall assess the item of interest and coordinate disposal by the Installation EOD. The Installation EOD will perform all conventional OE disposal and disposition.

1.0.9 Table 1 summarizes responsibilities and relationships among parties that will be involved at the project site supporting the intended plan of action.

1.1 SITE DESCRIPTION

1.1.1 General Holloman AFB is located due west of Alamagordo, New Mexico, in Otero County. Holloman AFB, formerly an Army Airfield, was initiated as a temporary facility during WWII, with construction commencing on February 6, 1942. The Base was transferred to Air Material Command in 1947 for the subsequent development and testing of pilotless aircraft, guided missiles, and allied equipment at the facility. During January 1971, Holloman AFB was transferred to Tactical Air Command, which used the Base as a training facility for fighter pilots.

1.1.2 Area DP-64 The area of concern, Area DP-64, comprises a 400-ft by 600-ft area located approximately 150 feet north and east of the main Base landfill (opened in 1958). Based on the review of aerial photographs, and the chronology of use of CAIS, it does not appear that the two sites are related. As indicated above, two 40 mL ampoules containing dilute chemical agent were found at the area. The ampoules were discovered following ground surface disturbance during a revegetation program, and are believed to have originated from a CAIS. Additionally, surface burn areas containing the

remnants of incendiary bomblets were discovered at the site. Figure 1 is aerial photograph showing Area DP-64 and the surrounding areas.

Table 1. Project Activities and Associated Responsibilities

Activity	Responsible Party
Public Affairs	Installation (Holloman AFB)
MCE and MPM Evaluation	CEHNC
Preparation of Safety Submission (SS) and Document Maintenance	TERC Contractor
Review of SS and Concurrence	All Parties
Staffing of SS	Installation, CEHNC, and CENWO
Preparation of Geophysical Work Plan	CEHNC Contractor
Hospital Memorandum of Agreement	CEHNC Contractor
Site Security	CEHNC Contractor
Office Trailers for support of RA	TBD
Interim Holding Facility (IHF) Support	CEHNC Contractor and Installation
Acquire HTW TSD Facility	CEHNC Contractor
Incineration Facility for 3X Material (Disposal)	CEHNC Contractor
Power Distribution/Generators for Field Activities	CEHNC Contractor
Dry-Run Pre-Operational Survey	CEHNC
DA Safety Pre-Operational Survey	USATCES
Daily Operations	CEHNC Safety Specialist
Surface Debris Removal	CEHNC Contractor and TEU
Table-top Exercise	CENWO or CEHNC
Location Surveys	CEHNC Contractor
Flora, Fauna, and Archeological Concerns	Installation
Geophysical Prove-Out	CEHNC Contractor
Geophysical Prove-Out Letter Report	CEHNC Contractor
Geophysical Survey and Reacquisition	CEHNC Contractor
Geophysical Investigation Report	CEHNC Contractor
Engineering Control Structure (Procurement, Setup and Relocation)	Not Applicable
Medical Support (Ambulance)	CEHNC Contractor

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Removal of OE/RCWM	CEHNC Contractor and TEU
Conventional OE Disposition	Installation EOD
Activated Carbon Filtration Units	Not Applicable
Agent Air Monitoring	ECBC
Industrial Chemical Air Monitoring	CEHNC Contractor
Sample Collection	CEHNC Contractor
HTW Analysis	CEHNC Contractor
Assessment of OE/RCWM	TEU and CEHNC Contractor
Packaging of OE/RCWM	TEU and CEHNC Contractor
Containerization of Suspect RCWM Contaminated Soils/Scrap	CEHNC Contractor and TEU
Transportation and Disposal of RCWM Contaminated Soils/Scrap	CEHNC Contractor
Transport of RCWM to IHF	CEHNC Contractor and TEU
Agent/ABP Sample Analysis	ECBC
Electronic Tracking of Samples and Results of Analysis	CEHNC Contractor
RCWM Disposition within 90 Days	PMNSP
Large Debris/Scrap Headspace	ECBC
Large Debris/Scrap Decontamination – 3X Material	CEHNC Contractor and TEU
Disposal of All Aqueous (Decon water, etc.) Waste	CEHNC Contractor
Conventional Ordnance Related Scrap Certification	CEHNC Contractor
Conventional Ordnance Related Scrap Disposal	CEHNC Contractor
Disposal of HTW Waste	CEHNC Contractor
ECBC Laboratory Waste Disposal	ECBC
Site Restoration	CEHNC Contractor
Site Specific Final Report	CEHNC Contractor

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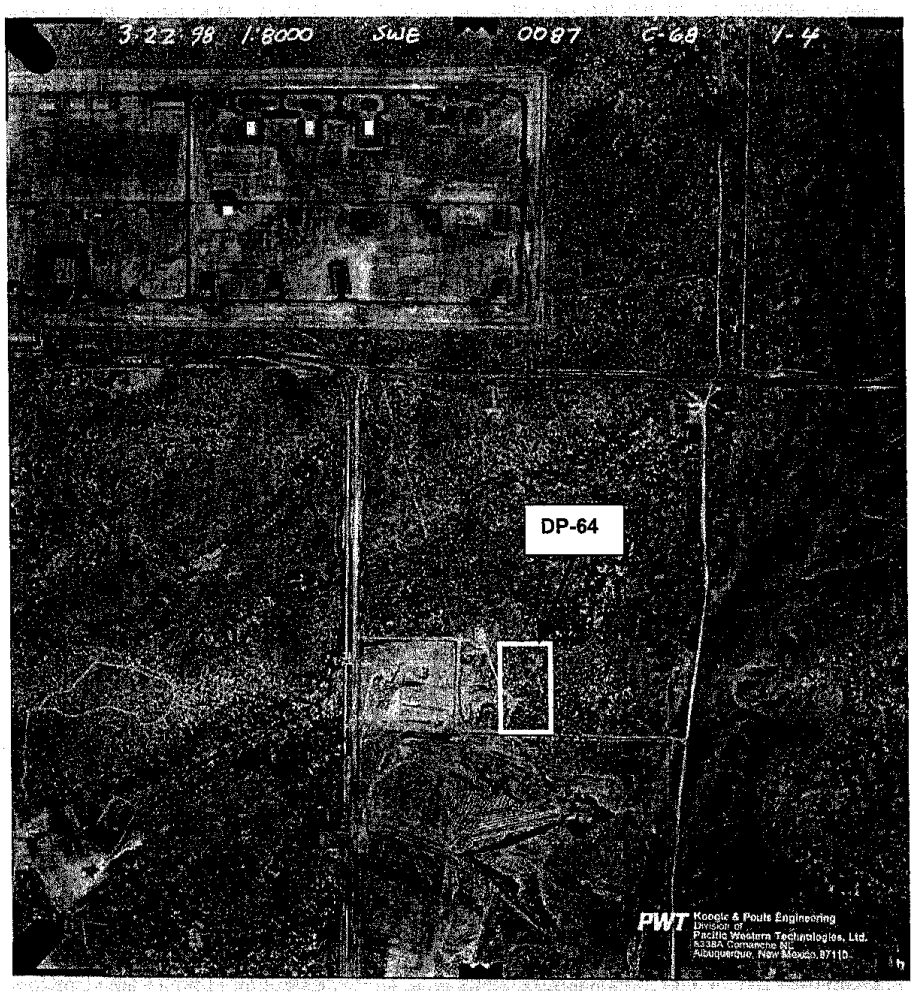

Figure 1. Aerial Photograph of Area DP-64 and Surrounding Areas.

2.0 OBJECTIVE The objective of this SOW is to conduct a geophysical survey and based on the results of that survey, conduct a removal action for Recovered Chemical Warfare Materiel and conventional ordnance and explosives at Area DP-64.

3.0 TASKS

3.0.1 General The CEHNC Contractor shall review the SS and all associated plans contained within prepared by the TERC Contractor. The CEHNC Contractor shall prepare a Work Plan that shall support and supplement the SS. With respect to the Site

Safety and Health Plan (SSHP) contained in the SS, the CEHNC Contractor shall determine if the SSHP complies with their corporate policies and procedures. Potential conflicts shall be addressed in a SSHP Supplement to be prepared by the CEHNC Contractor and included in the Work Plan for CEHNC's approval (see Section 3.2.10). All Work shall be in accordance with the approved Work Plan and the SS. Following approval of the Work Plan, the CEHNC Contractor shall perform surface clearance of Area DP-64 with TEU and ECBC in support in preparation for a geophysical investigation. The CEHNC Contractor shall perform the geophysical investigation, and based on the results of that investigation shall perform intrusive excavations with TEU and ECBC (specific air monitoring) in support. The CEHNC Contractor shall revert to a support role to TEU when a suspect RCWM item is found. TEU will assess, package and transport the item to the IHF. The CEHNC Contractor shall be responsible for the characterization and ultimate disposal of hazardous waste and solid waste recovered. The CEHNC Contractor shall collect samples from the excavated soils for characterization, including agent analysis by ECBC. If a suspect conventional OE item is located, the Installation EOD shall assess and dispose of the item with the CEHNC Contractor providing support as needed. The CEHNC Contractor shall be responsible for site restoration (site grading and seeding) once intrusive excavations are complete. The CEHNC Contractor shall prepare a Site Specific Final Report for CEHNC's approval documenting all activities that were conducted.

3.0.2 **Timeline** The project timeline was designed to facilitate continuous field activities. The CEHNC Contractor shall assume an on-site duration of approximately 4 weeks (21 workdays) to complete mobilization, training, the table-top exercise, pre-operational surveys, OE/UXO surface clearance and debris removal, and the geophysical prove-out. The CEHNC Contractor shall assume an on-site duration of approximately 6 weeks to complete the geophysical investigation, intrusive activities, and demobilization. The geophysical investigation shall be completed within 3 workdays immediately following surface clearance and debris removal. It is estimated that intrusive activities shall be approximately four weeks in duration. Demobilization accounts for the remainder of the on-site activities. It is assumed that the approximately 10 weeks on-site duration shall be continuous.

3.0.3 The following tasks detail the work to be conducted:

3.1 (TASK 1) FIRM FIXED PRICE - RECORDS REVIEW AND SITE VISIT

3.1.1 **Records Review** The CEHNC Contractor shall review pertinent records and interview personnel knowledgeable of site conditions. The purpose of this task is to permit CEHNC Contractor staff with direct project responsibility to gain necessary requisite knowledge and information about site conditions. It is not intended that this task be a "records locating task" where new information is located or developed. Previous documents to be reviewed may include, but not limited to, the Safety Submission (see Paragraph 3.1.3 below), historical aerial photographs, and various maps. These documents will be provided by CEHNC.

3.1.2 **Site Visit** The CEHNC Contractor shall conduct a site visit to assist in the review of the SS and associated plans and gain first-hand knowledge of the site. The site visit team shall not exceed three persons, and shall include one Senior UXO Supervisor. The site visit shall be coordinated with the CEHNC Contracting Officer (CO)

10 days prior to arriving at the site. An abbreviated SSHP (ASSHP) shall be prepared in accordance with (IAW) 29 CFR 1910.120 and 29 CRR 1910.134 for the site visit. An example of an ASSHP can be obtained from the U.S. Army Corps of Engineers – Huntsville Center (CEHNC) Safety Office. The ASSHP shall be forwarded to the CEHNC Project Manager (PM) for approval prior to the site visit.

3.1.3 Safety Submission Review The CEHNC Contractor shall review the SS and associated plans prepared by the TERC Contractor. The Department of Defense Explosive Safety Board (DDESB) shall provide final approval of the SS. The SS together with the Work Plan, (see Task 2 below) shall collectively serve as work plans for all project activities. The SS includes a Work Plan, Site Safety and Health Plan; TEU Response Actions and Assessment of OE, RCWM, and CAIS Items; ECBC Chemical Warfare Material (CWM) Air Monitoring Plan; ECBC Sample Analysis Plan; PMNSCM Interim Holding Facility Plan; Site-Specific Ordnance of Concern; Wind Rose, Average Wind Speed, and Temperature for Holloman AFB; Minimum Separation Distance Calculations; Revegatative Procedures; and QA Plan and SOPs for Field Sampling and Analysis as appendices. Though several of these documents are prepared by other agencies, the TERC Contractor shall be responsible for keeping all incorporated documents current, and preserving document control so that all copies remain identical through DDESB approval. After the SS has been approved by DDESB, the TERC Contractor shall remain responsible for keeping all incorporated documents current, and preserving document control so that all copies remain identical throughout the remainder of the project.

3.2 (TASK 2) FIRM-FIXED PRICE – WORK PLAN

The CEHNC Contractor shall prepare and submit to CEHNC for approval a Work Plan prior to commencing activities at the site beyond that of the site visit described above. The intent of the Work Plan is to supplement the approved SS. The Contractor shall provide a unit cost for each additional copy of the Work Plan requested prior to production. Format and organization of the Work Plan shall be IAW Data Item Description (DID) OE-005-01.01 excepting that the Work Plan shall be limited to the following:

3.2.1 Site Mobilization/Demobilization and Support Plan The CEHNC Contractor shall prepare a plan that details mobilization/demobilization activities. These activities shall be those actions necessary to prepare the site for Work prior to work crew arrival and those actions necessary to close out the site at demobilization.

3.2.2 Technical Management Plan The CEHNC Contractor shall prepare a Technical Management Plan IAW DID OE-005-02.01.

3.2.3 Geophysical Prove-out Plan The CEHNC Contractor shall prepare a Geophysical Prove-Out (GPO) Plan IAW DID OE-005-05A.01, -05.01, and - 07.01.

3.2.4 Site Specific Geophysical Work Plan The CEHNC Contractor shall prepare a site-specific Geophysical Work Plan IAW DID OE-005-05.01. The Geophysical Work Plan shall outline the Contractor's proposed methodology of accomplishing the objectives.

3.2.5 Location Surveys and Mapping Plan The CEHNC Contractor shall prepare a Location Surveys and Mapping Plan IAW DID OE-005-07.01.

3.2.6 Work, Data, and Cost Management Plan The CEHNC Contractor shall prepare a Work, Data, and Cost Management Plan IAW DID OE-005-08.01.

3.2.7 Property Management Plan The CEHNC Contractor shall prepare a Property Management Plan IAW DID OE-005-09.01.

3.2.8 Quality Control Plan The CEHNC Contractor shall prepare a Quality Control Plan IAW DID OE-005-11.01.

3.2.9 Interim Holding Facility Siting Plan for Recovered Chemical Warfare Material (RCWM) Sites The CEHNC Contractor shall prepare a Interim Holding Facility Siting Plan for Chemical Warfare Material (RCWM) Sites IAW DID OE-005-16.01.

3.2.10 Site Safety and Health Plan Supplement The CEHNC Contractor shall develop and maintain a Health and Safety Program (HSP) in compliance with the requirements of OSHA standard 29 CFR 1910.120(b)(1) through (b)(4) (see Paragraph 5.1). As part of this fulfilling requirement, the CEHNC Contractor shall develop a supplement to Appendix B of the approved SS "Site Safety and Health Plan for DP-64, Holloman Air Force Base, New Mexico." The Site Safety and Health Plan Supplement prepared by the CEHNC Contractor shall include corporate philosophy or standard operating procedures. Potential conflicts with Appendix B of the approved SS should be resolved with the CEHNC CO prior to commencement of any fieldwork.

3.2.11 Additional Elements The CEHNC Contractor shall prepare and include all specified appendices required by DID OE-005-01.01 with the exception of Appendix D, Site Safety and Health Plan, (the SS and the Site Safety and Health Plan Supplement shall suffice), Appendix E, Environmental Sampling And Analysis Plan, (the SS and requirements of this SOW shall suffice), and Appendix G, MSD Calculation Sheets (included in the SS).

3.3 (TASK 3) FIRM-FIXED PRICE – MOBILIZATION/DEMOBILIZATION, TRAINING, TABLE TOP EXERCISE AND PRE-OPERATIONAL SURVEYS

3.3.1 Mobilization/Demobilization The CEHNC Contractor shall mobilize and demobilize IAW the contractor's Site Mobilization/Demobilization and Support Plan.

3.3.2 Pre-Operational Training and Table-Top Exercise The CEHNC Contractor shall participate in pre-operational training and a table-top exercise to be conducted at the project site.

3.3.3 CEHNC and DA Pre-Operational Surveys The CEHNC Contractor shall be required to successfully complete CEHNC and Department of the Army (DA) Pre-Operational Surveys prior to commencement of field activities.

3.3.4 Duration For estimating purposes, the CEHNC Contractor shall assume a field duration of 17 workdays for mobilization, pre-operational training and table-top exercise, and pre-operational surveys. Demobilization shall occur IAW the project schedule.

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3.4 (TASK 4) FIRM-FIXED PRICE - GEOPHYSICAL PROVE OUT

3.4.1 Perform Geophysical Prove-out The CEHNC Contractor shall perform a Geophysical Prove-out (GPO) IAW DID OE-005-05A.01 and OE-005-05.01 and the approved GPO Plan. The GPO shall be conducted during the first phase of the operation when site training is being conducted. It is anticipated that the CEHNC Contractor shall proceed with the geophysical investigation on the basis of CEHNC verbal approval (with written follow up) of the GPO.

3.4.2 GPO Letter Report The CEHNC Contractor shall submit for approval a GPO letter report IAW DID OE-005-05A.01.

3.5 (TASK 5) TIME AND MATERIALS – OE/UXO SURFACE CLEARANCE AND DEBRIS REMOVAL

The CEHNC Contractor shall perform OE/UXO surface clearance and debris removal for Area DP-64 IAW the approved SS, and shall not deviate from the approved plan. This task includes removing and staging metal fence currently bounding Area DP-64 at a location to be determined by Holloman AFB. The fencing surrounding the site is composed of an inner and an outer fence. The inner fence shall be removed completely. The outer fence shares one length of the fence (approximately 600 feet) with the existing adjacent landfill area. The CEHNC Contractor shall remove only three sides of the outer fence leaving the common fence intact. It is assumed that reinstallation of any fencing removed will not be required. For estimating purposes, the CEHNC Contractor shall assume a field duration of four workdays for this task.

3.6 (TASK 6) FIRM FIXED-PRICE - GEOPHYSICAL INVESTIGATION

3.6.1 Location Surveying and Mapping The CEHNC Contractor shall perform all location surveying and mapping IAW DID OE-005-07.01, the SS, and the Work Plan to establish areas where Geophysical Surveying will be performed. During all field activities, the survey crew shall be accompanied by a UXO Technician II equipped with an electromagnetic metal detector or magnetometer who shall check the area for anomalies prior to any placement of stakes, etc.

3.6.2 Geophysical Mapping, Evaluation and Reacquisition

3.6.2.1 The CEHNC Contractor shall perform a geophysical survey and data analysis to identify and delineate areas or features that may warrant intrusive investigation. The target objectives are:

- Large burial trenches indicative of previous "trench and fill" disposal operations;
- Other ground disturbances suggestive of former burial pits; and
- K951/K952 CAIS (pigs) or their associated 9-inch metal cans.

3.6.2.2 After the surface clearance is complete, the CEHNC Contractor shall geophysically map the site (400 by 600 feet). Geophysical mapping, initial evaluation, and reacquisition of initial targets must be completed within 3 days to facilitate commencement of intrusive

investigations immediately afterwards. Subsequent data evaluation, dig list updates, and reacquisition will be conducted on a not to interfere basis with ongoing intrusive actions.

3.6.2.3 The CEHNC Contractor shall perform the geophysical investigation IAW the Work Plan and DID OE 005-05.01. All geophysical mapping teams shall be established from personnel who have successfully demonstrated their ability by training on the GPO plot for skill, ability, technique and procedure. All geophysical equipment must be tested on the GPO plot prior to use for mapping.

3.6.2.4 To ensure timely execution of field activities, the capability for on-site processing of geophysical data shall be present at the site. Geophysical field data and target lists shall be provided to CEHNC on a daily basis for QA review. The Contractor shall document the methodology and criteria for identifying and evaluating anomalies in the Work Plan.

3.6.2.5 The CEHNC Contractor shall reacquire all selected geophysical target anomalies identified on the dig sheets. The CEHNC Contractor shall provide a minimum of one geophysicist at the site to assist with anomaly reacquisition. The anomaly reacquisition task will not be considered complete until the Work is reviewed and accepted by CEHNC. For estimating purposes, the CEHNC Contractor shall assume reacquisition of 25 anomalies.

3.6.3 **Investigation Results** Results of the geophysical investigation shall be included in the Site Specific Final Report (see Task 14).

3.7 OPTIONAL (TASK 7) FIRM-FIXED PRICE – ADDITIONAL GEOPHYSICAL MAPPING

The CEHNC Contractor may be required to perform additional geophysical mapping and data analysis using ground penetrating radar (GPR) to further refine areas or features relating to ground disturbance. For estimating purposes, the CEHNC Contractor shall assume utilizing GPR over four (4) 50 by 50 foot areas. The CEHNC Contractor shall propose equipment to accomplish this additional mapping as part of the Geophysical Work Plan.

3.8 (TASK 8) TIME AND MATERIALS – INTRUSIVE INVESTIGATION

3.8.1 The CEHNC Contractor shall provide all necessary qualified personnel and equipment to perform intrusive target anomaly investigation. The CEHNC Contractor shall investigate target anomalies identified and re-acquired during the geophysical investigation according to the approved Work Plan. The Contractor shall fill in all columns of the Dig Sheets, Attachment C of DID OE 005-05.01.

3.8.2 Off-site personnel will not be impacted by the Maximum Credible Event, or the Most Probable Munition. There are no residential areas within, or in close proximity to the limits of the No Significant Effects Distance or the OE Exclusion Zone (Minimum Separation Distance), 433 and 832 feet beyond the perimeter of Area DP-64, respectively. Therefore, no engineering controls are anticipated to be required at the site. While following all monitoring procedures, the CEHNC Contractor and TEU shall excavate and sift the areas of concern at Area DP-64 in accordance with the approved SS. The CEHNC Contractor shall perform sampling in accordance with the approved SS to determine RCWM and hazardous waste disposition. The MAP operated by ECBC

shall be on site for the duration of the project to conduct specific air monitoring and agent headspace analysis. It is assumed that low level agent and agent breakdown product analysis will be conducted at ECBC's offsite laboratory. The CEHNC Contractor shall provide HTRW analysis.

3.8.3 In the event a suspect explosive configured chemical munition item is found, the CEHNC Contractor shall stop work immediately, withdraw from the site upwind, and notify the on-site CEHNC Safety Specialist and TEU. TEU shall assess the suspect item and the CEHNC Contractor shall provide support.

3.8.4 The CEHNC Contractor shall be responsible for the opening of non-suspect RCWM containers, if required, and collecting samples for analysis. The CEHNC Contractor shall assist TEU in overpack/packaging glassware and items that are identified or suspected as containing chemical agent. The CEHNC Contractor and TEU shall be responsible for the screening of debris and containerization of soils generated during the intrusive investigation.

3.8.5 The CEHNC Contractor shall be responsible for the proper sampling and containerization of agent contaminated soils. The CEHNC Contractor shall be responsible for the identification of hazardous waste treatment, storage, and disposal (TSD) facilities for the disposal of soils and debris contaminated with agent and hazardous waste. The CEHNC Contractor shall be responsible for labeling, manifesting, transportation, and the disposition of all waste, including but not limited to, agent and agent breakdown product contaminated soils.

3.8.6 The CEHNC Contractor shall be responsible for the separation and collection of RCWM related and ordnance related scrap (OE scrap).

3.8.7 For estimating purposes the CEHNC Contractor shall assume a duration of approximately four weeks for intrusive activities.

3.9 (TASK 9) TIME AND MATERIALS - FIELD MONITORING AND SAMPLING

3.9.1 Field Monitoring Dust and industrial chemical monitoring shall be conducted by the CEHNC Contractor. Agent monitoring will be accomplished by ECBC. The CEHNC Contractor shall coordinate with ECBC in determining the amount and type of monitoring equipment that shall be used. The CEHNC Contractor shall propose the placement and number of monitoring devices for this task. ECBC shall provide continuous agent monitoring for controlling potential worker exposure to agent during field operations. The CEHNC Contractor shall be responsible for the continuous monitoring of industrial chemicals and particulates for controlling worker exposure to these hazards during field operations. The CEHNC Contractor shall coordinate with ECBC and CEHNC regarding hazards believed present at the site. Air monitoring results shall be used to determine appropriate levels of Personnel Protective Equipment (PPE) and the need to upgrade or downgrade them.

3.9.2 Sampling

3.9.2.1 The CEHNC Contractor shall collect all samples in the field (e.g., unknown containers, soils, and pit/trench walls and bottom). Sampling shall be performed in

accordance with the approved SS. The CEHNC Contractor shall perform environmental analysis and provide all associated shipping and transportation. ECBC shall perform agent and agent breakdown product analysis.

3.9.2.2 Soil samples shall be analyzed by ECBC for the presence of chemical agent. Samples field identified as containing chemical agent shall be immediately handled as described in the approved SS. Samples identified as not containing agent shall be available for release by the CEHNC Contractor to the off-site USACE validated laboratory for environmental analysis.

3.9.2.3 Samples collected shall be analyzed for chemical agent, chemical agent breakdown products, and other analytical parameters IAW the approved SS. For estimating purposes the CEHNC Contractor shall assume twenty soil samples shall be taken. The CEHNC Contractor shall provide a unit cost for sample collection and analysis. To this end, a minimum of three sample splits shall be taken by the CEHNC Contractor at each proposed sample location or depth. One split shall be used to take off-gas head space readings to give an initial indication of chemical agent presence or absence in the sample. Another split shall be analyzed for chemical agent and chemical agent breakdown products by ECBC's offsite laboratory. The third split shall be analyzed for HTW constituents IAW the approved SS after ECBC results indicate no detection of chemical agent. This third split shall be held in storage until the results from ECBC are provided declaring the sample chemical agent free. For approximately 10 percent of the sampling effort, a fourth sample split shall be collected and sent by the CEHNC Contractor to the government environmental laboratory for QA purposes. QA samples shall be collected, monitored, packaged, and shipped at the frequency indicated in the approved SS.

3.9.2.4 The CEHNC Contractor shall electronically track sample identifications with analytical results as soon as they become available. This electronic information shall identify sampling location, depth, sample number, time collected, person collecting sample, and provide the analytical results.

3.9.2.5 The Government assumes that there will be a continuous sampling effort as work progresses for containers, soils, glassware, and debris recovered. Additional sampling events shall be conducted for the assessment of the surrounding area at the Government's discretion. The CEHNC Contractor shall assume sampling activities throughout the duration of intrusive activities (approximately four weeks).

3.10 (TASK 10) TIME AND MATERIALS – INTERIM HOLDING FACILITY SITE SUPPORT

3.10.1 An Interim Holding Facility (IHF) shall be provided by PMNSCM for the temporary storage of RCWM. The CEHNC Contractor shall provide all IHF related establishment, support, and disestablishment (upon project completion) requirements given by the SS. The SS currently indicates that specific requirements are to be accomplished by Holloman AFB. The present intent is to modify the SS so as to require the CEHNC Contractor to provide these services. In the interim, the CEHNC Contractor shall assume that all IHF requirements given by the SS shall be provided by the CEHNC Contractor (excluding the initial provision of the IHF by PMNSCM). Establishment activities include, but necessarily are not limited to, offload of the IHF upon arrival (via

crane), installation of associated barriers (fencing), lighting, alarms, signage, and access control, and other establishment requirements given by the SS.

3.10.2 The CEHNC Contractor shall provide continuous (24/7) armed security of the IHF at times when RCWM items are actually contained within the IHF IAW the SS. The Contractor shall provide IHF security until items are removed and IHF use is complete. **This effort shall not extend beyond Sept 30, 2004.**

3.11 (TASK 11) TIME AND MATERIALS - PROCESS RCWM RELATED SCRAP FOR DISPOSITION

The CEHNC Contractor and TEU shall place all RCWM related scrap recovered from clearance and removal operations where RCWM has been identified in a container capable of being sealed and heated, also known as a hot box (to be provided by ECBC). After heating and retention, the container shall be monitored for low levels of RCWM. If monitoring reveals no RCWM vapors to be present, the CEHNC Contractor and TEU shall package it for shipment. If the monitoring indicates agent contamination above the Airborne Exposure Limit (AEL), the scrap will be decontaminated by the CEHNC Contractor and TEU. Disposal of the scrap shall be the responsibility of the CEHNC Contractor. The CEHNC Contractor shall provide a unit cost per pound of scrap disposed. For estimating purposes, the CEHNC Contractor shall assume quantities of RCWM related scrap to be disposed of will be minimal.

3.12 (TASK 12) TIME AND MATERIALS - CONVENTIONAL OE DESTRUCTION, AND CERTIFICATION OF ORDNANCE RELATED SCRAP

The Installation EOD shall be responsible for the destruction, if required, of all conventional OE (including UXO, as applicable) encountered during surface and subsurface operations. The CEHNC Contractor shall support the Installation EOD as needed. The CEHNC Contractor shall furnish all necessary personnel and equipment for the certification of conventional ordnance related scrap by the CEHNC Contractor in preparation for final disposition. Final disposition on all recovered ordnance related scrap shall be the responsibility of the CEHNC Contractor. The methodology to accomplish this task shall be in accordance with Attachment A. The CEHNC Contractor shall provide a unit cost per pound of scrap disposed. For estimating purposes, the CEHNC Contractor shall assume quantities of ordnance related scrap to be disposed of will be minimal.

3.13 (TASK 13) TIME AND MATERIALS - SITE RESTORATION

The CEHNC Contractor shall perform site grading and reseeding as required to restore the area to existing or better conditions. All holes and depressed areas shall be backfilled and the site restored in accordance with the approved SS.

3.14 (TASK 14) FIRM-FIXED PRICE - SITE SPECIFIC FINAL REPORT

The CEHNC Contractor shall prepare a Site Specific Final Report (SSFR) for CEHNC approval describing all activities performed under this SOW. The CEHNC Contractor shall prepare and submit the report fully documenting all fieldwork including geophysical investigation, removal actions, sampling and analysis, results and subsequent

evaluations, and conclusions and recommendations made by the CEHNC Contractor. The textual portions of the report shall be fully supported with accompanying maps, charts, and tables as necessary to fully describe and document all Work performed. Inclusion of information from other parties may be required to develop a complete report, and it shall be the responsibility of the CEHNC Contractor to obtain and utilize such information. The CEHNC Contractor shall provide a unit cost for each additional copy of the report requested prior to production.

3.15 (TASK 15) FIRM-FIXED PRICE/UNIT COST - PROJECT MANAGEMENT

The CEHNC Contractor shall perform project management activities necessary to maintain acceptable project control, to include but not limited to the following. The CEHNC Contractor shall provide a unit cost of project management per month. For estimating purposes, the CEHNC Contractor shall assume eight months of project management effort.

3.15.1 Schedule The CEHNC Contractor shall provide a schedule of Work to be performed, and subsequent updates, in Microsoft Project format, unless directed otherwise. The schedule and updates shall otherwise conform to DID OE-085.01. Updates to the schedule shall be sent to the CEHNC PM via email, unless directed otherwise. The CEHNC Contractor shall update the schedule via weekly status reports IAW DID OE-085.01.

3.15.2 Meetings The CEHNC Contractor shall provide a maximum of two professionals thoroughly familiar with the project, to attend meetings, including public meetings as required by the CEHNC CO. Meetings held in Huntsville, Alabama, shall be assumed to be of one day duration. Meetings at Holloman AFB shall be assumed to be of two days duration. The CEHNC Contractor shall be prepared to make presentations of proposed work, and summaries of work performed, as applicable, and shall entertain open discussions. The CEHNC Contractor shall prepare, and be prepared to show overheads or use other presentation techniques to convey plans, findings and recommendations, etc. For estimating purposes, the CEHNC Contactor shall propose one meeting in Huntsville, and three meetings at Holloman AFB. The CEHNC Contractor shall provide unit costs per additional meeting for Huntsville and Holloman AFB.

3.15.3 Reports/Minutes, Record of Meetings The CEHNC Contractor shall prepare and submit a report/minutes of all meetings attended IAW DID OE-045.01.

3.15.4 Telephone Conversations/Correspondence Records The CEHNC Contractor shall keep a record of each phone conversation and written correspondence concerning this Task Order IAW DID OE-055.01. A copy of this record shall be attached to the Weekly Status Report.

3.15.5 Monthly Status Report The CEHNC Contractor shall prepare and submit a monthly status report IAW DID OE-080.01 and including any other items required in the SOW described herein.

3.15.6 Weekly Status Reports The CEHNC Contractor shall prepare and submit weekly status report IAW DID OE-085.01 and including any other items required in the SOW described herein.

3.16 (TASK 16) TIME AND MATERIALS – MEDICAL SUPPORT SERVICES

3.16.1 The CEHNC Contractor shall provide a Department of Transportation approved ambulance ready to transport decontaminated casualties to the contract hospital during prescribed work hours for the duration of the intrusive investigation. The ambulance shall be staffed by two state or National Registry of Emergency Medical Technician (NREMT) - certified in advanced life support measures (paramedics). All paramedics that provide on-site support shall have completed the Non-stockpile Chemical Medical Training within the last 6 months. This course is special medical training in chemical warfare agent casualty care, which is tailored to include instruction in treatment for all site agents of concern. This course shall be updated annually, as necessary.

3.16.2 The paramedics shall evaluate and treat any casualty received at the decontamination line and they shall be responsible for transporting the casualty to the contract hospital. The paramedics shall also assist with the heat stress program and shall keep a medical health data sheet on each employee. The paramedic/ambulance provider shall be responsible for obtaining the necessary waivers for carrying and administering the necessary antidotes to the casualties.

3.16.3 The ambulance shall be equipped with supplies that are normally found on an ambulance, emergency medical equipment and supplies necessary to treat exposure to the site agents of concern and all appropriate protocols.

3.16.4 The ambulance and paramedics shall be onsite during all intrusive activities and shall be required to participate in the site-specific training, the table exercise and the pre-operational surveys prior to the start of intrusive operations. **Upon notification by the Government, The ambulance and paramedics shall be onsite during operations of the Single CAIS Access and Neutralization System (SCANS). Assume two weeks of medical support will be required for this activity.** If a change is made to the intrusive team's work hours, the CEHNC Contractor shall ensure that the ambulance and paramedic service hours shall be changed (via contract modification if required) to match the intrusive work hours. Information required by DA PAM 50-6 must be included in the contract with the ambulance service. The CEHNC Contractor shall submit the subcontract with the ambulance service for review by the government. An example of a scope of work for ambulance and paramedic services can be obtained from the CEHNC safety office.

3.16.5 The CEHNC Contractor shall provide the paramedics with a list of chemicals suspected to be onsite to which the workers could be exposed, along with a description of the potential health effects. CEHNC shall provide instructors to the CEHNC Contractor to train the ambulance personnel in chemical agent casualty care.

3.17 (TASK 17) TIME AND MATERIALS – SCANS SUPPORT SERVICES

3.17.1 SCANS is a hand-held chemical treatment container developed and operated by PM NSCM for the treatment of CAIS. CAIS items are placed in the SCANS unit with specific neutralization chemicals. The unit is sealed

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and processed to break the CAIS items and initiate chemical neutralization. The sealed SCANS is overpacked, labled , and shipped for disposal.

3.17.2 In addition to the requirements described under TASK 3.10.2 and Task 3.16.4, the CEHNC Contractor shall provide logistical and facilitative assistance to PMNSCM in performance of CAIS destruction using the SCANS apparatus. This activity is expected to have a two week duration.

4.0 GENERAL DIRECTIVES

The CEHNC Contractor shall use guidance provided in Data Item Descriptions to the furthest extent possible, unless specifically directed otherwise by this SOW herein.

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4.1 FORMAT AND CONTENT OF WORK PLANS AND ENGINEERING REPORTS

Although draft submittals are requested, the term "draft" does not reflect upon the quality of such reports being submitted by the CEHNC Contractor. The intent of draft submittals is for the comprehensive review of complete documents for approval. Thus, the term "draft" indicates only that it has not been reviewed by all appropriate agencies. Each page of draft documents shall indicate "DRAFT". Work plans and engineering reports prepared and submitted by the CEHNC Contractor shall fully present all information, data, analyses, and conclusions and recommendations, as applicable. All drawings shall be of engineering quality in drafted form with sufficient detail to show interrelations of major features. The contents and format of work plans and engineering reports shall be arranged IAW all pertinent guidance documents, e.g., DIDs. The requirements of these guidance documents notwithstanding, work plans and reports shall consist of 8-1/2 inch by 11-inch pages with drawings, other than the construction drawings, folded, if necessary, to this size. Work plan and report covers shall consist of durable 3-ring binders with a cover page and labeled spine and shall hold pages firmly while allowing easy removal, addition, or replacement of pages. A title page shall identify the site, the Contractor, the Corps of Engineers District, the Huntsville Engineering and Support Center, and the date. The CEHNC Contractor identification shall not dominate the title page. All data, including raw analytical and electronic data, generated under this Task Order are the property of the DOD and the government has unlimited rights regarding its use.

4.2 COMPUTER FILES

All final text files generated by the CEHNC Contractor under this Task Order shall be furnished to the CEHNC CO in Microsoft Word 2000, IBM PC compatible format. All drawings shall be digitized 3D design file (*.dgn) in Intergraph Corporation format and/or ArcView or Geosoft compatible format. The project schedule shall be provided in Microsoft Project, latest version, unless directed otherwise. Each submittal shall include a compact disk (CD) with electronic files of the submittal contained thereon. CDs shall be appropriately labeled as to its contents and dated.

4.4 REVIEW COMMENTS

The CEHNC Contractor shall review all comments received through the CEHNC PM and evaluate their appropriateness based upon their merit. Where the CEHNC Contractor has a conflicting understanding of requirements when compared to a Government comment, the CEHNC Contractor shall contact the comment's author and attempt to resolve the conflict. The CEHNC Contractor shall incorporate all applicable comments and provide a written response to each comment IAW the project schedule.

4.4 IDENTIFICATION OF RESPONSIBLE PERSONNEL

Each submittal shall identify the specific members and title of the subcontractor and contractor's staff that had significant input into the report. All final reports shall be signed and sealed by a registered Professional Engineer-In-Charge.

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4.5 ADDRESSES

Addresses given by Table 3 include interested agencies and parties, and are to be used for submittal submission, unless directed otherwise.

Table 3. Addresses

ADDRESS
Commander U.S. Army Engineering and Support Center, Huntsville ATTN: CEHNC-OE-CW, **Ms Sherri Anderson-Hudgins** 4820 University Square Huntsville, Alabama 35816-1822
Mr. David Scruggs 7 CES/CEV 550 Tobosa Avenue Holloman Air Force Base, New Mexico 88330
U.S. Army Corps of Engineers, Omaha District, ATTN: CENWO-PM-H, Mr. Thomas Zink 215 North 17th St. Omaha, NE 68102

4.6 SCHEDULE AND SUBMITTALS

The CEHNC Contractor shall submit all deliverable data to the CEHNC CO and other reviewers as required and IAW the schedule delineated by Table 4. All submittals shall be delivered to all addressees no later than the close of business on the day indicated.

Table 4. Document Submission Schedule.

	DOCUMENT	DATE DUE (work days and work weeks)
1.	Contractor Review of SS	TBD
2.	ASSHP	5 days prior to site visit
3.	Kickoff Meeting/Site Visit	TBD
4.	Submit Baseline Schedule	7 days after the Kickoff meeting
5.	Draft Work Plan	According to project schedule
6.	Contractor Receive Comments from Govt.	21 days after submittal received
7.	Draft-Final Work Plan	21 days after comments received
8.	Contractor Receive Comments from Govt.	15 days after submittal received
9.	Final Work Plan	21 days after comments received
10.	Draft GPO Letter Report *	10 days after completion of GPO field work
11.	Contractor Receive Comments from Govt.	15 days after submittal received
12.	Final GPO Letter Report	10 days after comments received
13.	Draft SSFR	30 days after completion of field work
14.	Contractor Receive Comments from Govt.	15 days after submittal received
15.	Draft-Final SSFR	21 days after comments received
16.	Contractor Receive Comments from Govt.	15 days after submittal received
17.	Final SSFR	21 days after comments received

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	DOCUMENT	DATE DUE (work days and work weeks)
18.	Public Meeting	As required by PM
19.	Monthly Report	NLT 10th of following month
20.	Weekly Report	First day of following week
21.	Minutes of Meetings	NLT 10 days after each Meeting
22.	Overall completion date	TDB

* Note: It is anticipated that the CEHNC Contractor shall proceed with the geophysical investigation on the basis of CEHNC verbal approval (with written follow up) of the GPO, and not on the basis of the GPO Letter Report.

4.7 SUBMITTAL QUANTITIES

Provide the number of submittals shown in Table 5 to the addressees given previously.

Table 5. Submittal Submission Guidance.

RECEIVING AGENCY	*2.*	*4.*	*5.*	*7.*	*9.*	*10.*	*12.*	*13.*	*15.*	*17.*	*19.*	*20.*	*21.*
A. CENWO	1	1	1	1	1	1	1	1	1	1	1	1	1
B. CEHNC	3	3	3	3	3	3	3	3	3	3	1	1	1
C. HAFB	1	1	1	1	1	1	1	1	1	1	1	1	1
D. EOD	0	1	0	0	0	0	0	0	0	1	0	0	0

4.8 PERFORMANCE METRICS

Refer to Section C – Paragraph 6.0 of the Basic Current Contract. The performance, and accordingly, the evaluation of the contractor shall be based on certain performance metrics. Performance metrics include safety, quality, schedule, cost, and customer satisfaction. Evaluations will normally be performed on a per task order basis or annually for task orders of duration exceeding one year. Appraisals will be issued to support exercising subsequent option periods using AFARS 42.15 and ER 715-1-19. The CEHNC Contractor will be allowed to provide input to specific performance metrics; however, the government will make the final determination of specific performance metrics.

4.9 QUALITY ASSURANCE

In addition to the QC process by the CEHNC Contractor, the Government shall perform Quality Assurance (QA) on all phases and types of work done on the project to ensure safety, quality workmanship, proper procedures, and quality products. Safety violations, poor workmanship, failure to follow proper procedures, or inferior work products discovered by the Government will constitute QA failures. Any work or process that fails the Government QA process shall be re-done by the CEHNC Contractor with full documentation to correct the problem provided to CEHNC. In order to evaluate the effectiveness of the geophysical investigation and evaluation methods utilized by the CEHNC Contractor, the CEHNC CO may as deemed necessary, direct an independent contractor provided by the Government, (or direct Government personnel) to

independently map, evaluate, locate and access specific detected subsurface anomalies, or mag and flag portions of the CEHNC Contractor work areas for intrusive investigation.

5.0 SAFETY REQUIREMENTS

5.1 Health and Safety Program The CEHNC Contractor shall develop and maintain a Health and Safety Program (HSP) in compliance with the requirements of OSHA standard 29 CFR 1910.120(b)(1) through (b)(4). Written certification that the HSP has been developed and implemented shall be submitted to the CEHNC CO and the plans shall be made available upon request.

6.0 NOT USED

7.0 PUBLIC AFFAIRS

The CEHNC Contractor shall not publicly disclose any data generated or reviewed under this contract. The CEHNC Contractor shall refer all requests for information concerning the site condition to the Installation Public Affairs Office. Reports and data generated under this Task Order are the property of the Department of Defense and distribution to any other sources by the CEHNC Contractor, unless authorized by the CEHNC CO, is prohibited.

8.0 REFERENCES

8.1 National Contingency Plan, 40 CFR 300.

8.2 CEHNC Data Item Description OE-055.01 Telephone Conversation /Correspondence Records

8.3 CEHNC Data Item Description OE-080.01 Monthly Status Report

8.4 CEHNC Data Item Description OE-085.01 Weekly Status Report

9.0 ACRONYMS

3X	Term used to identify a level of contamination for agent-contaminated media (see DA PAM 385-61)
ABIH	American Board of Industrial Hygiene
ACGIH	American Conference of Governmental Industrial Hygienist
AEDA	Ammunition, Explosives, Dangerous Articles
AEL	Acute Exposure Level
AIHA	American Industrial Hygiene Association's
AR	Army Regulation
ARB	Anomaly Review Board
ASR	Archives Search Report
ASSHP	Abbreviated Site Safety and Health Plan
CAIRA	Chemical Accident or Incident Response and Assistance
CD	Compact Disk
CEHNC	US Army Engineering and Support Center, Huntsville
CEMRO	Corps of Engineers' Missouri River Omaha

CENWO	U.S. Army Engineer District, Omaha
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CIH	Certified Industrial Hygienist
CLP	Contract Laboratory Program
CO	Contracting Officer
COC	Contaminants of Concern
CSS	Chemical Safety Submission
CWM	Chemical Warfare Materiel
DA	Department of the Army
DDESB	Department of Defense Explosive Safety Board
DERP/FUDS	Defense Environmental Restoration Program/Formerly Used Defense Site
DOD	Department of Defense
DOI	Department of Interior
DOT	Department of Transportation
EPA	U.S. Environmental Protection Agency
ECBC	Edgewood Chemical and Biological Command
ESS	Explosive Safety Submission
EZ	Exclusion Zone
GEP	Geophysical Equipment Plan
GFE	Government furnished equipment
GPWP	Geophysical Prove-out Work Plan
GQA	Government Quality Assurance
GRWP	Geophysical Re-acquisition Work Plan
H, HD	Mustard
HSP	Health and Safety Program
HSWA	Hazardous and Solid Waste Amendment
HTRW	Hazardous, Toxic, and Radioactive Waste
HTW	Hazardous and Toxic Waste
HW	Hazardous Waste
IAW	In accordance with
ID	Identification
IDW	Investigative Derived Waste
IHF	Interim Holding Facility
IW	Investigative Waste
IWP	Intrusive Work Plan
LCS	Laboratory Control Standard's
MCE	Maximum Credible Event
MSDS	Material Safety Data Sheets
NCP	National Contingency Plan
NFRAP	No Further Remedial Action Planned
NIOSH	National Institute for Occupational Safety and Health
NOSE	No Significant Events
NWP	Non-intrusive Work Plan
NTP	Notice to Proceed
OE	Ordnance and Explosive
OSHA	Occupational Safety and Health Administration
PAO	Public Affairs Office

PAM	Pamphlet
PAT	Proficiency Analytical Testing
PEL	Permissible Exposure Limits
PEP	Property Equipment Plan
PC	Personal computer
PDS	Personnel Decontamination Station
PIG	Original steel cylinders CAIS vials/ampoules were shipped in
PM	Project Manager
PMNSCM	Product Manager Non-Stockpile Chemical Material
PPE	Personnel Protective Equipment
QA	Quality assurance
QAPP	Quality Assurance Project Plan
QC	Quality control
RA	Removal Action
RCRA	Resource Conservation and Recovery Act
RCWM	Recovered Chemical Warfare Materiel
SBCCOM	U.S. Army Soldier and Biological Chemical Command
SOW	Scope of Work
SSHP	Site Safety and Health Plan
SWMU	Solid Waste Management Units
SZ	Support Zone
TEC	Topographic Engineering Center
TEU	U.S. Army Technical Escort Unit
TLV	Threshold Limit Values
TO	Task Order
TSDF	Treatment, Storage, or Disposal Facility
TWA	Time Weighted Average
USACE	US Army Corps of Engineers
USAESCH	U.S. Army Engineering and Support Center, Huntsville
USATCES	U.S. Army Technical Center for Explosives Safety
USCG	U.S. Coast Guard
UXO	Unexploded ordnance
UXOQCS	UXO Quality Control Specialist
UXOSO	UXO Safety Officer
WDCMP	Work, Data, and Cost Management Plan
WP	Work Plan

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ATTACHMENT A

CORPS OF ENGINEERS CONTRACTORS OE SCRAP/RANGE RESIDUE INSPECTION, CERTIFICATION, AND FINAL DISPOSITION PROCEDURES

1.0 OE Scrap/Range Residue Inspection – Contractor Responsibilities and Procedures

1.1 U.S. Army Corps of Engineers (USACE) contractors executing projects will comply with the following procedures for processing OE Scrap/Range Residue for final disposition as scrap metal. The objective of these procedures is to ensure that an inspection procedure of the exterior and interior surfaces of all recovered items is in place to ensure these items do not present an explosive hazard. These USACE contractor responsibilities and procedures will be contained in the project work plan.

1.1.1 Unexploded Ordnance (UXO) Tech I will only tentatively identify a located item as scrap or OE.

1.1.2 UXO Technician II will:

1.1.2.1 Inspect each item as it is recovered and determine the following:

(1) Is the item a UXO or a component of a military munition?
(2) Does the item contain explosives or other dangerous materials?
(3) Does the item require detonation?
(4) Does the item require demilitarization (demil) or venting to expose internal fillers?

1.1.2.2 Segregate items requiring demil or venting procedures from those items ready for certification.

1.1.2.3 Items found to contain dangerous fillers will be process in accordance with applicable procedures.

1.1.3 UXO Technician III will:

(1) Inspect recovered items to determine if free of dangerous fillers.
(2) Supervise detonation of items found to contain dangerous fillers and venting/demil procedures.
(3) Supervise the consolidation of recovered scrap metal for containerization and sealing.

1.1.4 UXO Quality Control (QC) Specialist will:

(1) Conduct daily audits of the procedures used by UXO teams and individuals for processing OE Scrap/Range Residue.
(2) Perform and document a minimum of 10% random sampling of all scrap metal collected from the various teams to ensure no items of a dangerous or explosives nature are identified as scrap metal.
(3) Perform these random checks to satisfy that OE Scrap/Range Residue is free from any explosive hazards, necessary for completion of the Requisition and Turn-in Document, DD Form 1348-1A.

1.1.5 UXO Site Safety Officer (UXOSO) will:

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(1) Ensure the specific procedures and responsibilities for processing OE Scrap/Range Residue for certification as scrap metal are being followed, performed safely, consistent with applicable regulations, and in accordance with the USACE-approved project work plan.
(2) Perform random checks of processed OE Scrap/Range Residue scrap to ensure items being identified as scrap are free from any explosive hazards.

1.1.6 Senior UXO Supervisor will:

(1) Be responsible for ensuring work and Quality Control (QC) Plans specify the procedures and responsibilities for processing OE Scrap/Range Residue for the final disposition as scrap metal.
(2) Ensure a Requisition and Turn-in Document, DD Form 1348-1A is completed for all scrap metal to be transferred for final disposition.
(3) Perform random checks to satisfy that the OE or range residue is free from explosive hazards, necessary to complete the DD 1348-1A.
(4) Certify all scrap metal generated from OE Scrap/Range Residue as free of explosive hazards.
(5) Be responsible for ensuring that these inspected materials are secured in a closed, labeled and sealed container and documented as follows:

The container will be closed and clearly labeled on the outside with the following information: The first container will be labeled with a unique identification that will start with **USACE/Installation Name/Contractor's Name/0001/Seal's Unique Identification,** and continue sequentially.

The container will be closed in such a manner that a seal must be broken in order to open the container. A seal will bear the same unique identification as the container or the container will be clearly marked with the seal's identification if different that the container.

A documented description of the container will be provide by the contractor with the following information for each container: contents, weight of container, location where OE Scrap/Range Residue was obtained, name of contractor, names of certifying and verifying individuals, unique container identification, and seal identification, if required (see paragraph 1.1.7(5)). These documents will also be provided by the contractor in a separate section of the final report.

2.0 **OE Scrap/Range Residue Certification and Verification**

2.1 The contractor will ensure that scrap metal generated from OE or Range Clearance is properly inspected in accordance with the above procedures. Only personnel who are qualified UXO personnel per USACE's Contract Data Item Description (DID) OE-025.01 will perform these inspections. The Senior UXO Supervisor will certify and the USACE's OE Safety Specialist will verify that the scrap metal is free of explosive hazards.

2.2 DD form 1348-1A will be used as certification/verification documentation. All DD 1348-1A must clearly show the typed or printed names of the contractor's Senior UXO Supervisor and the USACE's OE Safety Specialist, organization, signature, and contractor's home office and field office phone number(s) of the persons certifying and verifying the scrap metal.

2.2.1 Local directives and agreements may supplement these procedures. Coordination with the local concerns will identify any desired or requested supplementation to these procedures.

2.2.2 In addition to the data elements required and any locally agreed to directives, the DD 1348-1A must clearly indicate the following for scrap metal:

(1) Basic material content (Type of metal; e.g., steel or mixed)

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(2) Estimated weight
(3) Unique identification of each of the containers and seals stated as being turned over.
(4) Location where OE Scrap/Range Residue was obtained.
(5) Seal identification, if different from the unique identification of the sealed container.

2.2.3 The following certification/verification will be entered on each DD 1348-1A for turn over of scrap and will be signed by the Senior UXO Supervisor and the USACE OE Safety Specialist.

"This certifies and verifies that the AEDA residue Range Residue and/or Explosively Contaminated property listed has been 100 percent properly inspected and, to the best of our knowledge and belief, are inert and/or free of explosives or related materials."

3.0 Maintaining The Chain Of Custody And Final Disposition

3.1 The Contractor, in coordination with the Corps of Engineers, will arrange for maintaining the chain of custody and final disposition of the certified and verified material. The certified and verified material will only be released to an organization that will:

(1) Upon receiving the unopened labeled containers, each with its unique identified un-broken seal ensuring a continued chained of custody, and, after reviewing and concurring with all the provided supporting documentation, sign as having received and agreeing with the provided documentation that the sealed containers contained no explosive hazards when received. This will be signed on company letterhead and state that the contents of these sealed containers will not be sold, traded or otherwise given to another party until the contents have been smelted and are only identifiable by their basic content.
(2) Send notification and supporting documentation to the sealed container-generating contractor that the sealed containers have been smelted and are now only identifiable by their basic content.

3.2 This document will be incorporated by the contractor into the final report as documentation supporting the final disposition of this scrap metal.

Contract: DACA 87-01-D-0034, TO 0019
Date: 7/29/2004

26

FINAL

(2) Estimated weight
(3) Unique identification of each of the containers and seals stated as being turned over.
(4) Location where OE Scrap/Range Residue was obtained.
(5) Seal identification, if different from the unique identification of the sealed container.

2.2.3 The following certification/verification will be entered on each DD 1348-1A for turn over of scrap and will be signed by the Senior UXO Supervisor and the USACE OE Safety Specialist.

"This certifies and verifies that the AEDA residue Range Residue and/or Explosively Contaminated property listed has been 100 percent properly inspected and, to the best of our knowledge and belief, are inert and/or free of explosives or related materials."

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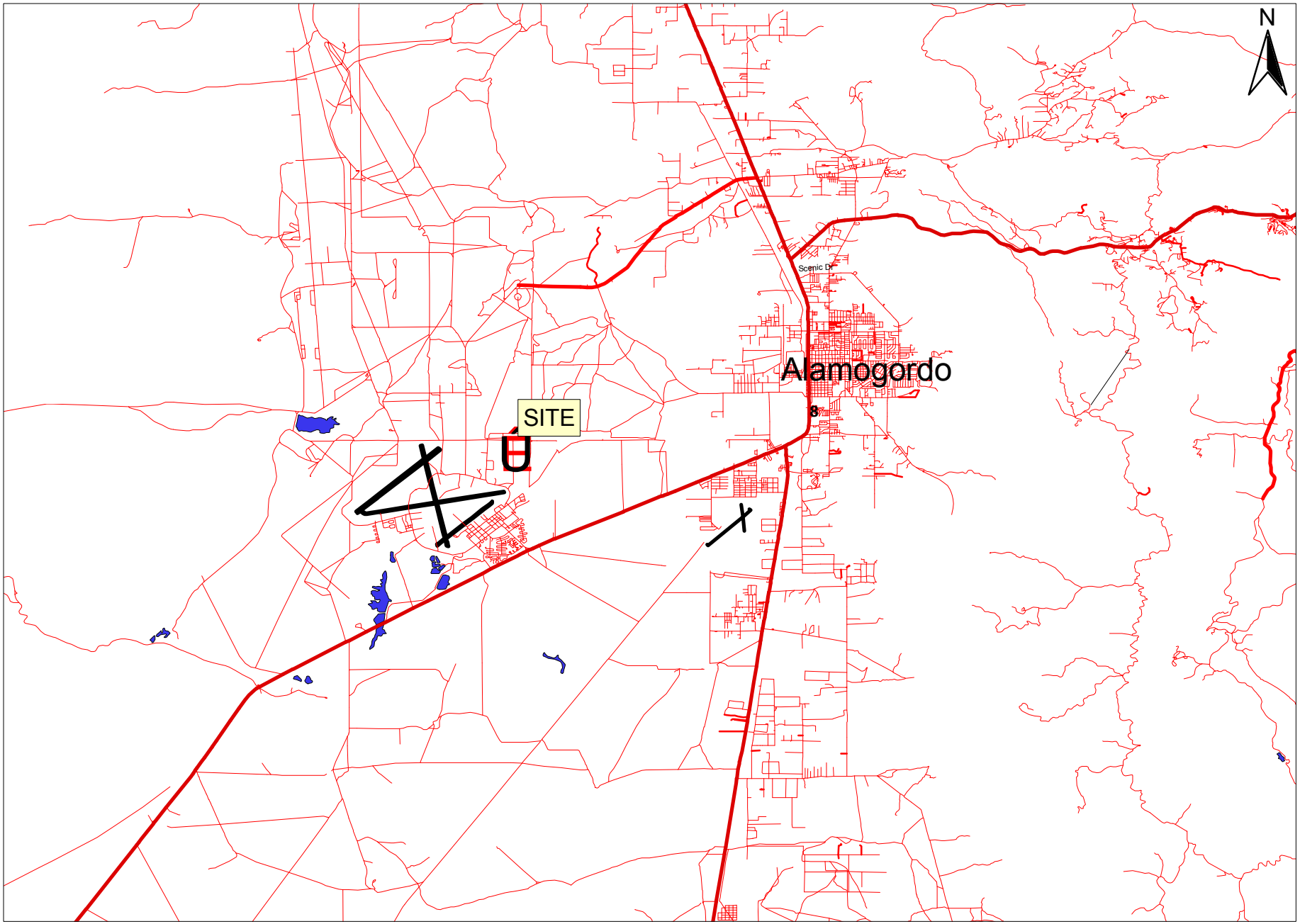
(2) Send notification and supporting documentation to the sealed container-generating contractor that the sealed containers have been smelted and are now only identifiable by their basic content.

3.2 This document will be incorporated by the contractor into the final report as documentation supporting the final disposition of this scrap metal.

APPENDIX B
SITE MAPS



3 0 3 Miles

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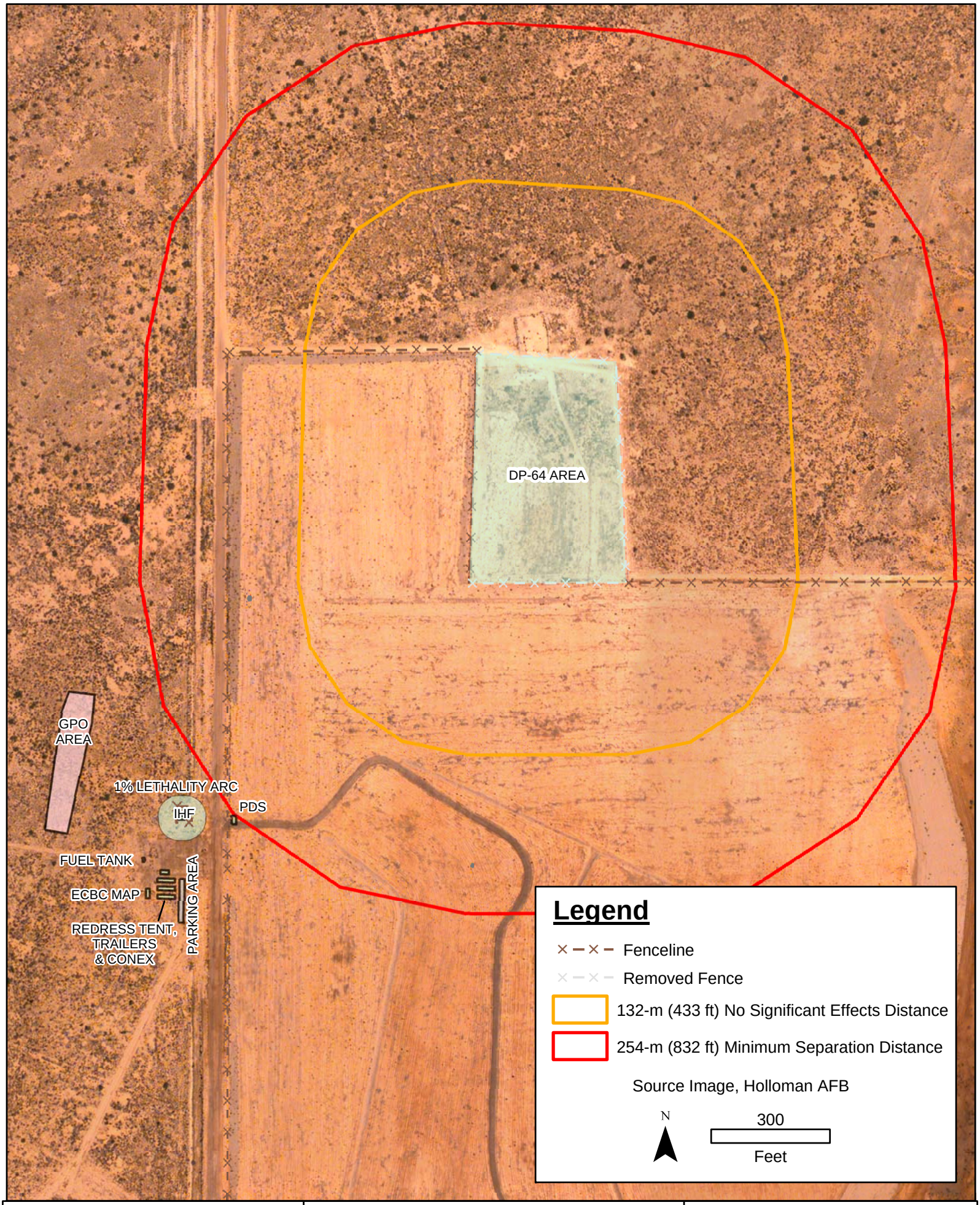
Site Location Map
Site DP-64
Holloman Air Force Base

PROJECT #:	PAGE #:	DATE:	DRAWN BY:	SCALE:	FIGURE:
2623	B-2	01/16/04	TBB	AS SHOWN	B-1



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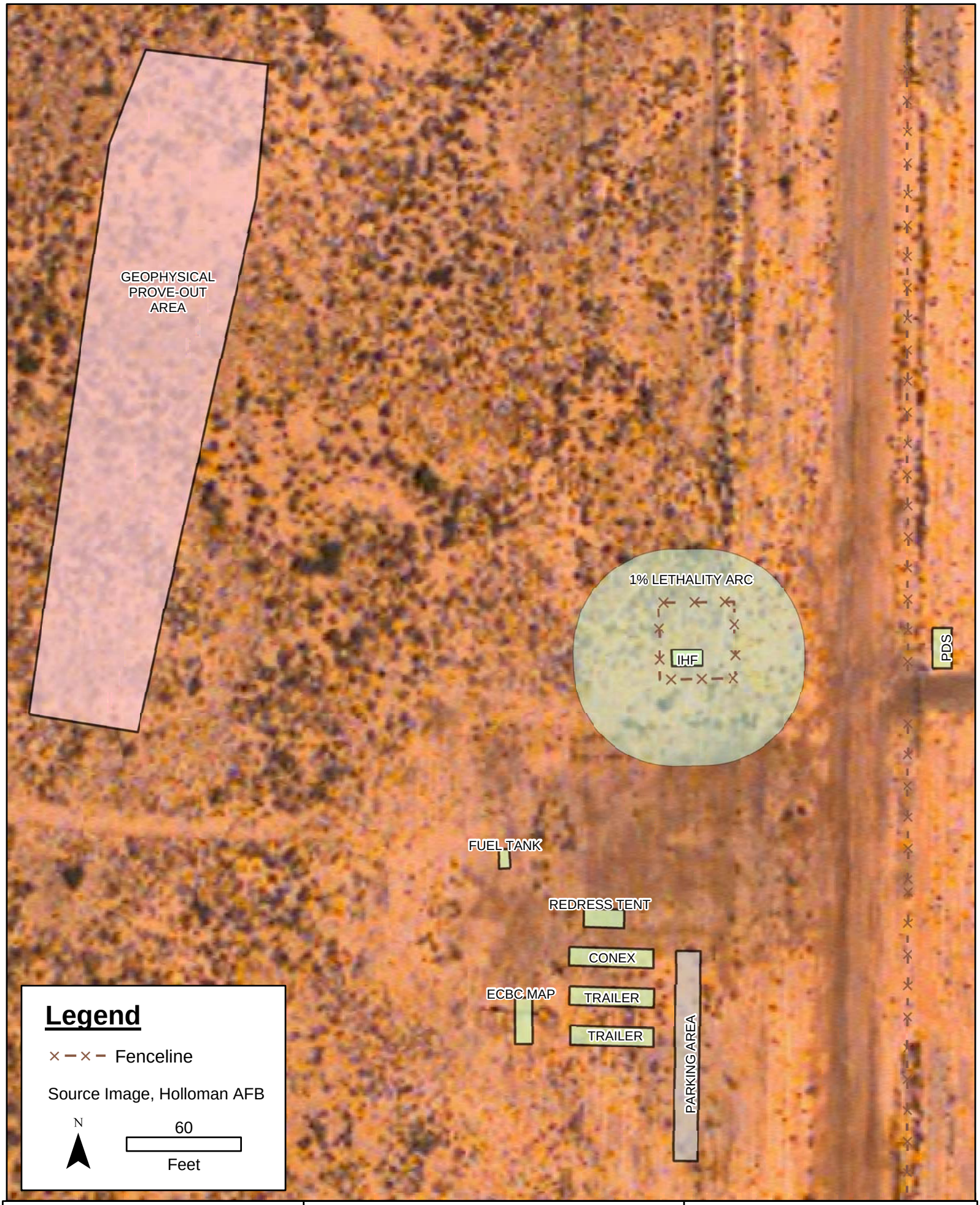
Hollowman Air Force Base, NM
Site Layout

PROJECT #: 2623 PAGE #: B-3 DATE: OCTOBER 2004 DRAWN BY: ATD CHECKED BY: DRA FIGURE: B-2



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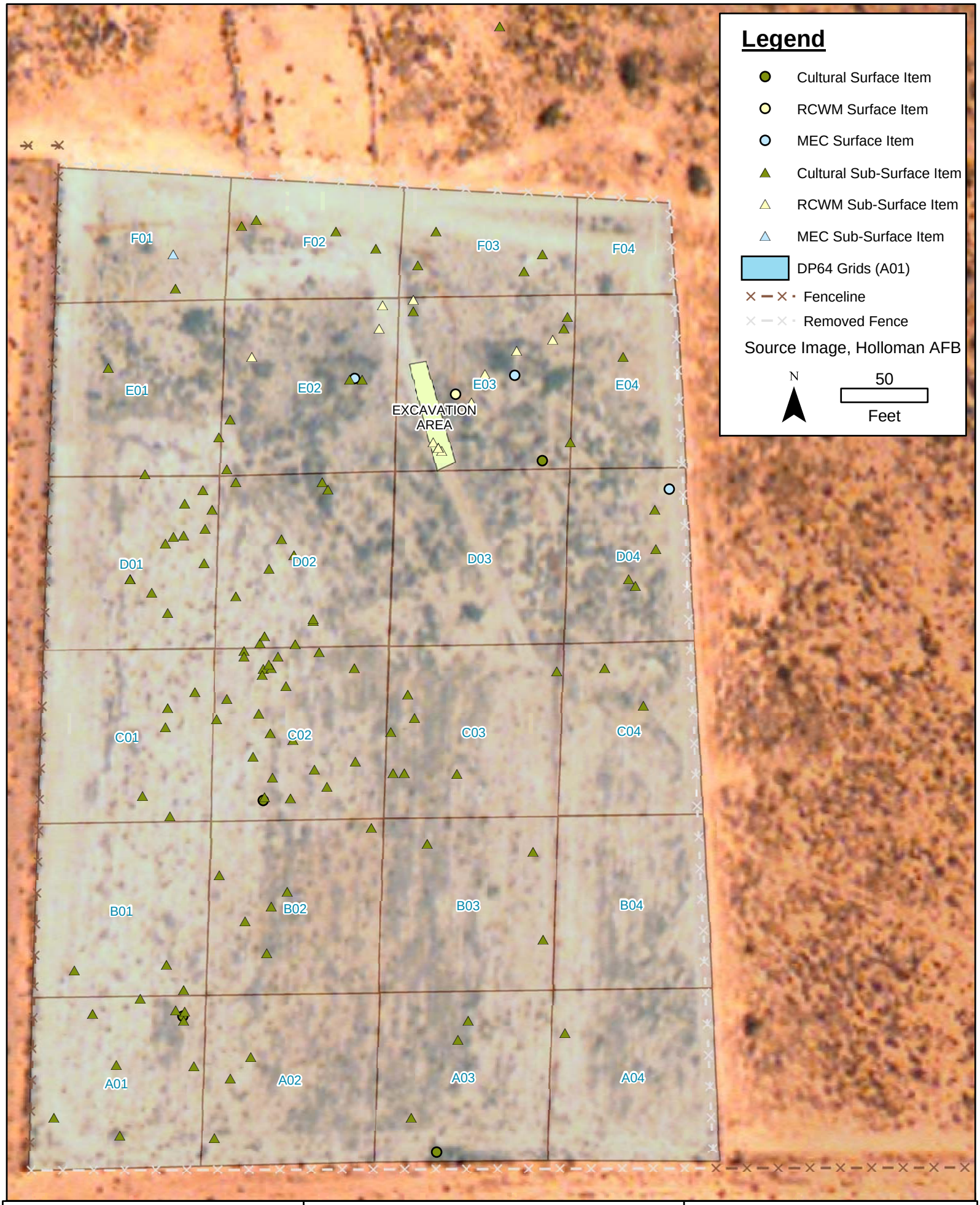
Hollowman Air Force Base, NM
GPO and CP Areas

PROJECT #: 2623 PAGE #: B-4 DATE: OCTOBER 2004 DRAWN BY: ATD CHECKED BY: DRA FIGURE: B-3



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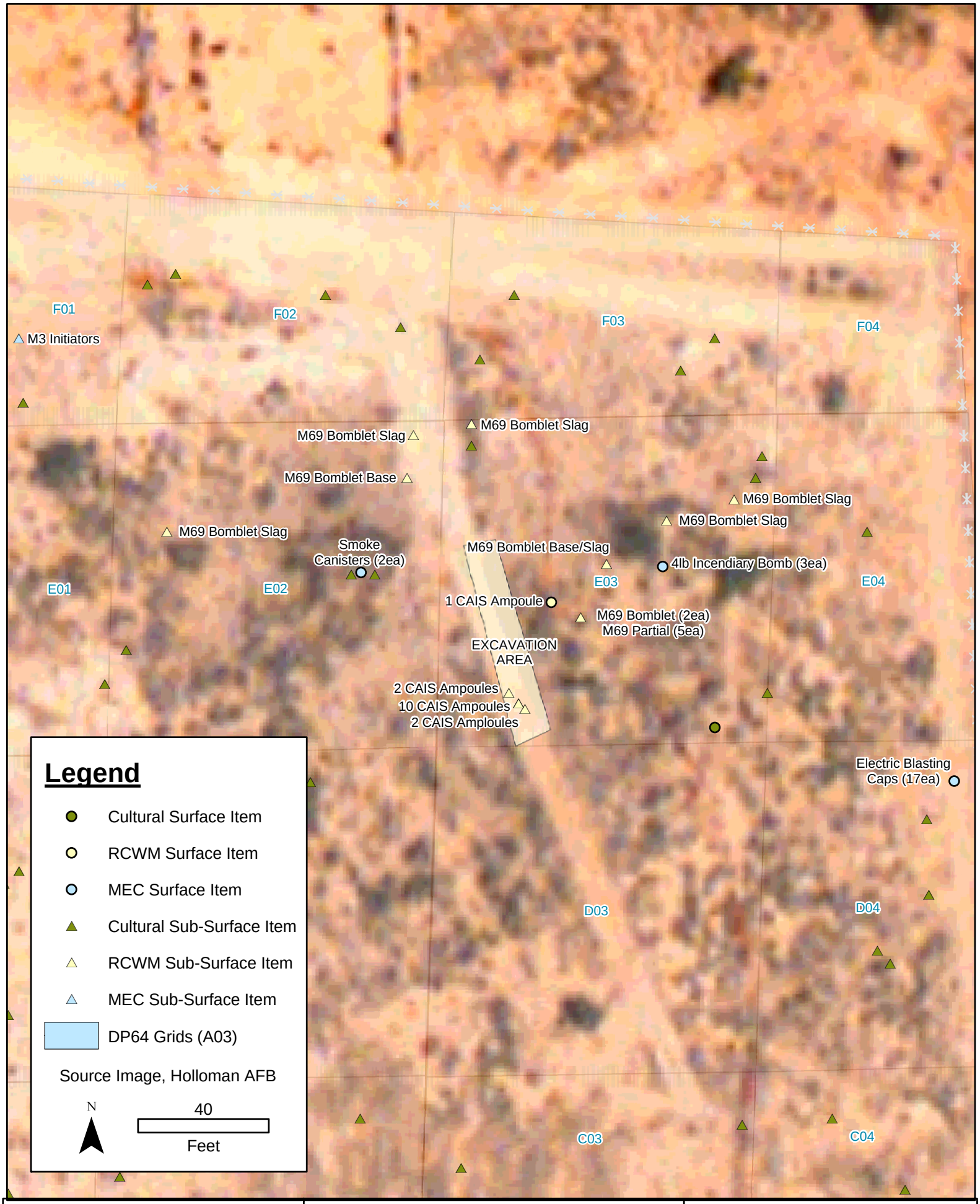
Hollowman Air Force Base, NM
DP64 Grid Layout

PROJECT #: 2623 | PAGE #: B-5 | DATE: OCTOBER 2004 | DRAWN BY: ATD | CHECKED BY: DRA | FIGURE: B-4



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Hollowman Air Force Base, NM
DP-64 RCWM and MEC Items

PROJECT #: 2623 PAGE #: B-6 DATE: OCTOBER 2004 DRAWN BY: ATD CHECKED BY: DRA FIGURE: B-5

APPENDIX C
GPO LETTER REPORT

FINAL GEOPHYSICAL PROVE-OUT LETTER REPORT

ORDNANCE AND EXPLOSIVE REMOVAL ACTION

HOLLOMAN AIR FORCE BASE ALAMOGORDO, NEW MEXICO

Contract: DACA87-00-D-0034
Task Order: 0019

Prepared for:

US Army Engineering and Support Center, Huntsville

by:

ZAPATAENGINEERING, P.A.
1100 Kenilworth Avenue
Charlotte, NC 28204

October 2004

FINAL REPORT

GEOPHYSICAL PROVE OUT REPORT FOR HOLLOMAN AIR FORCE BASE UTILIZING MTADS EM61, MTADS MAG, EM31 AND GPR

Blackhawk GeoServices Project Number 0401.008

Prepared For:

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October 2004

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1.0 INTRODUCTION

This report describes the procedures and results of the Geophysical Prove Outs (GPO) conducted at the Holloman Air Force Base, Alamogordo, New Mexico. Four geophysical instruments were used to record data during the GPO investigation; the Multi-sensor Towed Array Detection System EM61 (MTADS EM61) electromagnetic system; the Multi-sensor Towed Array Detection System Magnetometer 822 Array (MTADS MAG); an EM31 Electromagnetic (EM) Ground Conductivity Meter, and the SIR 10B Ground Penetrating Radar (GPR) system. GPO data recording was conducted on May 17, May 20, May 21, and May 22. Blackhawk Geophysical and UXO Services (Blackhawk) personnel performed the work as detailed in the Geophysical Prove-Out Work Plan.

All data collection and field procedures were performed in accordance with the scope of work and the Army Corps of Engineers DID MR-005-01. A digital copy of the GPO report, all raw and processed data, geophysical maps, seeded item coordinates, selected target coordinates, and control and survey coordinates are included in Attachment A.

REVISED PAGES

Date	Original Paragraph/Page Number	Revised Paragraph/Page Number	Modification Rationale
11/4/2004	ZAPATAENGINEERING Cover Page	ZAPATAENGINEERING Cover Page	Task Order Correction
11/4/2004	Blackhawk Cover Page	Blackhawk Cover Page	Added Blackhawk Logo
11/4/2004	Figure 6	Figure 6 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 7	Figure 7 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 8	Figure 8 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 9	Figure 9 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 10	Figure 10 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 15	Figure 15 – Revision 1	Added Scale Bar
11/4/2004	Figure 16	Figure 16 – Revision 1	Corrected Analysis

INSERTED PAGES

Date	Inserted Page Number(s)	Modification Rationale
11/4/2004	iv	Revision page added

2.0 GROUND PROVE OUT DESIGN AND PLAN

To meet the objectives of the work plan, three different GPO areas were prepared. Selection and construction of the prove-out areas were based upon the technical and site specific considerations. GPO GRID 1 (GRID 1) was approximately 18 meters by 91 meters (60 feet by 300 feet). The corner points of this grid are listed in Table 1. An additional GPO grid, GRID 2, was also constructed and overlapped the northern edge of GRID 1. Two trenches were constructed in GRID 2 that were approximately one to two meters in width. GRID 2 in its entirety was approximately 19.8 meters by 21.3 meters (65 feet by 70 feet). The corner points of GRID 2 are listed in Table 2. A final grid, GRID 3, which was approximately 2.1 meters by 5.2 meters (7 feet by 17 feet), was constructed over Trench 1 and within GRID 2. Glass vials were buried in this area. The corner points of GRID 3 are listed in Table 3.

Easting (m)	Northing (m)	ID
399395.00	3636895.39	SE Corner
399377.06	3636898.00	SW Corner
399389.96	3636989.00	NW Corner
399408.57	3636985.94	NE Corner
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 1. GRID 1 CORNER POINTS COORDINATES.

Easting (m)	Northing (m)	ID
399413.51	3636980.36	SE Corner
399393.76	3636982.79	SW Corner
399415.35	3637001.60	NE Corner
399395.76	3637003.91	NW Corner
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 2. GRID 2 CORNER POINTS COORDINATES.

Easting (m)	Northing (m)	ID
399411.09	3636992.04	NE Corner
399408.95	3636992.29	NW Corner
399410.37	3636986.94	SE Corner
399408.27	3636987.12	SW Corner
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 3. GRID 3 CORNER POINTS COORDINATES.

GRID 1 was constructed on the site and 18 items were seeded. Table 4 describes the seeded items located in GRID 1. The seeded items vary in size, depth below the ground surface, and orientation. Photographs of the seeded items are located in Attachment B. Data were collected with the MTADS EM61 and MTADS MAG over GRID 1 in order to test the ability of the instrument to locate isolated metallic seeded items. GRID 1 data were also collected with the EM31 ground conductivity meter.

Target_ID	X (UTMm)	Y (UTMm)	Z (UTMm)	Line	Distance (ft) to the North	Description	Orientation Relative to Path	Depth to the top (meters)	Depth to the top (inches)
124	399387.5	3636904.1	1232.405	30	25	SC#377	Vertical	0.3	12
126	399395.63	3636902.7	1232.418	60	25	RC1	Vertical	0.3	12
129	399388.5	3636911.5	1232.442	30	50	SC#385	Perpendicular	0.3	12
133	399397.13	3636910.2	1232.313	60	50	RC2	Perpendicular	0.3	12
136	399389.48	3636918.9	1232.393	30	75	B#389	Vertical	0.41	16
139	399398.28	3636917.5	1232.385	60	75	B#388	Parallel	0.41	16
143	399390.56	3636926.6	1232.009	30	100				
146	399399.59	3636925.4	1232.359	60	100	B#387	Perpendicular	0.41	16
150	399391.57	3636934.1	1231.852	30	125	B#390	Parallel	0.84	33
154	399392.66	3636941.1	1231.694	30	150	B#383	Vertical	0.91	36
157	399401.68	3636940.3	1231.646	60	150	B#391	Perpendicular	0.84	33
162	399394.53	3636956.1	1231.268	30	200	SC#378	Parallel	1.19	47
166	399403.93	3636955	1231.482	60	200	SC#382	Perpendicular	0.91	36
170	399396.02	3636967.8	1230.909	30	237	SC#381	Parallel	1.52	60
174	399405.07	3636962.5	1231.213	60	225	SC#386	Perpendicular	1.22	48
177	399406.08	3636970	1231.204	60	250	SC#379	Vertical	1.22	48
179	399397.69	3636977.3	1230.904	30	270	SC#380	Vertical	1.52	60
182	399407.25	3636977.9	1230.876	60	275	SC#384	Parallel	1.52	60
Coordinates are listed in NAD 83 UTM Zone 13N									
RC = REAL CAN SC = SIMULATED CAN B = BOMBLET									

TABLE 4. DESCRIPTION OF GRID 1 SEED ITEMS.

EM31 data were also collected over GRID 2 in order to test the ability of the instrument to locate ground disturbances (trenches) as well as to provide information concerning the background soil conductivity and magnetic susceptibility at the site. The endpoints of the trenches were known and are listed in Table 5.

Easting	Northing	ID
399409.02	3636986.37	Trench1 South
399409.72	3636994.84	Trench1 North
399400.99	3636999.08	Trench2 North
399400.06	3636987.10	Trench2 South
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 5. TRENCH ENDPOINTS LOCATIONS.

GPR data were initially collected over GRID 2, or the trenches, to test its ability to locate areas of ground disturbances. GRID 3 was then constructed and glass vials were buried in Trench 1. The coordinates of the glass vials are listed in Table 6. The points correspond to the endpoints of the vials. GPR data were collected over GRID 3.

Target_ID	X (UTMm)	Y (UTMm)	Z (UTMm)	Depth (inches)	Depth (meters)	Description	Orientation
1VIAL-1	399409.63	3636987.913	1232.218	3	0.076	Glass Vial	North-South
1VIAL-2	399409.65	3636988.123	1232.231				
2VIAL-1	399409.65	3636988.704	1232.222	3	0.076	Glass Vial	East-West
2VIAL-2	399409.85	3636988.688	1232.247				
3VIAL-1	399409.87	3636989.313	1232.069	3	0.076	Glass Vial	Vertical
4VIAL-1	399409.93	3636989.935	1232.131	6	0.15	Glass Vial	North-South
4VIAL-2	399409.97	3636990.149	1232.157				
5VIAL-1	399409.96	3636990.722	1232.136	6	0.15	Glass Vial	East-West
5VIAL-2	399410.16	3636990.69	1232.137				
6VIAL-1	399410.07	3636991.463	1231.984	6	0.15	Glass Vial	Vertical
7VIAL-1	399408.93	3636987.933	1232.068	9	0.23	Glass Vial	North-South
7VIAL-2	399408.98	3636988.124	1232.079				
8VIAL-1	399408.97	3636988.815	1232.036	9	0.23	Glass Vial	East-West
8VIAL-2	399409.16	3636988.77	1232.043				
9VIAL-1	399409.22	3636989.419	1231.911	9	0.23	Glass Vial	Vertical
10VIAL-1	399409.3	3636990.043	1231.939	12	0.3	Glass Vial	North-South
10VIAL-2	399409.31	3636990.266	1231.918				
11VIAL-1	399409.27	3636990.946	1232.026	12	0.3	Glass Vial	East-West
11VIAL-2	399409.49	3636990.926	1231.97				
12VIAL-1	399409.42	3636991.496	1231.899	12	0.3	Glass Vial	Vertical
Coordinates are listed in NAD 83 UTM Zone 13N							

TABLE 6. DESCRIPTION OF GRID 3 SEED ITEMS.

Figure 1 is an As-Built map displaying the location of the three grids, the trenches, and the buried seed items in GRID 1. Figure 2 is an As-Built map of GRID 3 at a larger scale to enhance details of the buried vials.

3.0 GEOPHYSICAL EQUIPMENT

3.1 ELECTROMAGNETIC SYSTEM

3.1.1 The MTADS EM61 is a high-sensitivity time domain electromagnetic (TDEM) system that is able to detect both ferrous (steel) and non-ferrous (aluminum, copper, brass, etc.) metals. The MTADS EM61 system generates an electromagnetic (EM) pulse in the transmitter coil, causing eddy currents to flow both within the ground and within metal objects. When the EM pulse is terminated, the eddy currents decay, thus producing a changing magnetic field, called a secondary magnetic field. The eddy currents, also called secondary currents, in metal objects decay more slowly than those in the ground and produce measurable anomalies. This system is designed so that a low-level and/or constant signal is received when no metal is present. When metal is present, an increased secondary magnetic field is recorded. This signal is generally at its maximum level when the coils are located directly over the object. This results in a "bulls-eye" type anomaly for isolated metal objects and simplifies data analysis.

The MTADS EM61 system consists of three one-meter by one-meter (3.28 feet x 3.28 feet) coils, designated by left, right, and center. The left and right coils are placed adjacent to one another and the center coil is centered on top of the midpoint between the right and left coil. This results in a sampling width of two meters (6.28 feet). A Mobile Instrument Platform (MIP) towed the MTADS EM61 system.

3.1.2 Sensor positioning on the grid was recorded with a Trimble 4700 Global Positioning System (GPS) Real Time Kinematic (RTK) system. A base station and rover were used to collect positioning information for both of the MTADS systems. The coordinates for the base station used for the entire GPO are listed in Table 7. The GPS-RTK system provides real-time positioning at five readings per second (5 Hz) providing spatial coordinates with an error of about 5 cm (0.16 ft) under ideal conditions. However, because of the dimensions of the MTADS EM61 coil, the accuracy with which the sources of anomalies can be positioned is about 30 cm (0.98 ft).

Easting	Northing	ID	Latitude	Longitude
399529.840	3637688.790	CP2	32.52.21.82	-106.04.26.22
Note: Coordinates are listed in NAD 83 UTM Zone 13			Note: Coordinates are listed in WGS 84 coordinates.	

TABLE 7. BASE STATION COORDINATES.

3.1.3 MTADS EM61 data were logged using an industrial PC running MagLog logging software written by Geometrics, Inc. at a rate of 16 samples per second. Data were recorded at the normal driving speed of 4.8 to 8.1 kilometers per hour (3 to 5 miles per hour) resulting in a data station interval of 0.08 to 0.14 meters (0.28 to 0.45 feet) along the survey line. The line spacing was nominally two meters (6.56 feet) or less thus ensuring 100% surface coverage.

3.2 MAGNETOMETER SYSTEM

3.2.1 The MTADS MAG Cesium-vapor magnetometer array system is able to detect ferrous (i.e. iron-containing) metals. Magnetic surveys measure the magnitude of the total magnetic field and are expressed in units of nano Tesla (nT). The total magnetic field is the sum of the earth's magnetic field and any perturbations in this field caused by local ferromagnetic objects along with the magnetic field of geologic materials. A magnetic anomaly usually contains both a magnetic high and an associated magnetic low (dipole). This anomaly occurs because the earth's magnetic field induces positive (north) poles as it enters a magnetic body and negative (south) poles as it leaves the body.

The MTADS MAG consists of eight Geometrics, Inc. model 822 Cesium vapor magnetometers in a linear array aligned normal to the direction of travel with a sensor separation of 0.25 meter (0.082 feet). The swath width of MTADS MAG is two meters (6.56 feet). A GeoMetrics G858 base station magnetometer was set up to the south of the GPO grid and was maintained at that location during the subsequent grid surveys. The base station recorded data at two readings per second (2 Hz). The base station's coordinates are listed in Table 8. The MIP towed the MTADS MAG system.

Easting	Northing	ID
399364.33	3636807.33	CP2
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 8. MAG BASE STATION COORDINATES.

3.2.2 Positioning for the MTADS MAG was achieved using the GPS system (refer to section 3.1.2 for details).

3.2.3 The magnetometer data were recorded using the program MagLog at a rate of 50 samples per second. Data recorded at the normal driving pace of 4.8 to 8.1 kilometers per hour (3-5 miles per hour) acquisition rate results in a data station interval of 0.027 to 0.045 meters (0.088 feet to 0.15 feet) along the survey line. The line spacing was nominally two meters (6.56 feet) or less to ensure 100% surface coverage.

3.3 EM GROUND CONDUCTIVITY SYSTEM

3.3.1 The EM31 is a frequency domain electromagnetic induction instrument built by Geonics Ltd. The transmitter consists of a coil through which oscillating electrical current is passed. The current generates an oscillating electromagnetic (EM) field that penetrates the ground. This field is the primary EM field. This EM field induces secondary oscillating currents in conductive material in the ground. Greater ground conductivity results in stronger secondary currents. The oscillating secondary currents generate secondary oscillating EM fields that are detected by the receiver of the instrument. The EM31 system measures the quadrature-phase and in-phase component of the induced secondary magnetic field. The quadrature-phase, which is sensitive to the bulk electrical properties of the near surface material, is linearly related to the ground conductivity at low induction numbers. The in-phase component of the received signal is often

used to detect large metallic objects and pipes. The EM31 is used primarily for mapping lateral variations in the bulk conductivity to an effective depth of approximately 5 meters (16 feet).

The EM31 can be used in two modes, one called the vertical dipole mode and the other the horizontal dipole mode. In the vertical dipole mode, the readings are insensitive to near surface variations in the ground conductivity but have the greatest investigation depth, whereas in the horizontal dipole mode, the readings are more sensitive to near surface variations in the ground conductivity but have a lower depth of investigation. Data were collected in the vertical dipole mode to ensure that the measured conductivity had the greatest depth of investigation and minimal influence by the near surface conductivity of the ground. The MIP towed the EM31 system.

3.3.2 Positioning for the EM31 was achieved using the GPS system (refer to section 2.1.2 for details). GPS data were recorded simultaneously with the EM31 data on a Juniper Systems Allegro data logger at a rate of 5 Hz. The GPS data were merged with the EM31 data during processing. The line spacing is for the EM31 survey was approximately 3.05 meters (10 feet).

3.3.3 A Polycorder 720 measured the data at a rate of five samples per second (5 Hz). Data recorded at the normal driving pace of 4.8 to 8.1 kilometers per hour (3-5 miles per hour) acquisition rate results in a data station interval of 0.25 to 0.45 meters (0.88 feet to 1.46 feet) along the survey line.

3.4 GROUND PENETRATING RADAR SYSTEM

3.4.1 A Geophysical Survey Systems, Inc. (GSSI) Subsurface Interface Radar (SIR) 10B control unit was used to acquire GPR data. According to the work plan, only two antennae were to be tested at the Holloman site. Per the request of the Army Corps of Engineers, Blackhawk tested an additional antenna at the Holloman site. The three antennae tested were a 200 MHz, 500 MHz, and 900 MHz center frequency antennae. As a general rule, higher frequency antennae provide greater resolution, but provide less depth of penetration while lower frequency antennae provide greater depth of penetration, but less resolution. The GPR antenna consists of a transmitter antenna and receiver antenna contained in a single enclosure. Electromagnetic energy is transmitted into the ground by the transmitter antenna. The receiver antenna detects energy that is reflected by a layer or an anomaly in the subsurface. The radar controller records the two-way travel time of the reflected energy. The two-way travel time of the reflected energy is a function of the depth of the reflection and the physical properties of the overlying material (i.e. dielectric constant). Due to the fact that the work plan only called for the testing of two antennae and the 500 MHz antenna produced poorer data than the other two antennae, only the results of the 200 MHz and the 900 MHz are discussed in this report. The results of the 500 MHz antenna were inconclusive and added no benefit.

Data were collected over the trench GPO grid with the 200 MHz antenna in order to test the ability of the antenna to locate areas of disturbed ground. Data were collected over a grid containing known seeded vials with the 900 MHz antenna in order to test the ability of the antenna to locate isolated targets to a depth of about one third of a meter.

3.4.2 Positioning was accomplished by setting up a local grid with fiberglass tapes. The locations of the corners of the grids were obtained with the GPS system. Each antenna was manually pulled across the survey grids.

3.4.3 The 200 MHz antenna GPR data were collected in "wheel mode". In this mode, electronic signals are triggered by the movement of the wheel allowing accurate positioning of the data. Data were recorded at 39.04 scans per meter (11.9 scans per foot) and a mark was placed in the data every 1.54 meters (five feet). Data were recorded for a time range of 200 nanoseconds. The line spacing used in conjunction with this antenna was 1.5 meters (five feet). The lines recorded with the 200 MHz antenna were aligned west to east and recorded in unidirectional fashion. GPS positions were recorded at the beginning and end of each profile line. The data recorded with the 900 MHz antenna was collected in "auto mode". In this mode, the user places fiducial marks in the data and uses these marks to correctly position the data. The line spacing used with this antenna was 15 cm (.5 feet). Data were recorded in a grid with north-south profiles and east-west profiles. Data were recorded in a unidirectional fashion for each of the profile lines in the grid (west to east and south to north).

4.0 QUALITY CONTROL TESTS

The GPO was used to determine the ability of the MTADS EM61, EM31, MTADS MAG and GPR systems to detect the items. QA/QC equipment tests were performed in accordance with the Geophysical Prove-out Work Plan. To ensure high-quality geophysical data, ZAPATAENGINEERING's and Blackhawk's Senior Geophysicists evaluated the setup of each instrument and monitored the data collection and processing steps.

4.1 EQUIPMENT WARM-UP

Equipment warm-up time was approximately fifteen minutes for each array.

4.2 RELATIVE SENSORS POSITIONS

All sensor offsets were measured in relation to the GPS antenna. These offsets were used to determine the location of each sensor during data processing.

4.3 PERSONNEL TEST

This test ascertains that the operator is not carrying any metal objects that might interfere with the instrument readings. This test was performed under the supervision of Blackhawk's Senior Geophysicist. The requirements of this test were met.

4.4 STATIC/STANDARD TESTS

After being given sufficient time to warm up, during which any instrument drift was observed, a static/standard test was conducted. The static/standard test consisted of a minimum of a nine-minute record; three minutes background, three minutes with standard, and three minutes background. This test was performed each day, both prior to any data recording and after all of the data had been recorded for that day. After the initial three minute stationary test, a metal standard board was placed in exactly the same position relative to the MTADS EM61 and MTADS MAG sensors and data were collected for three minutes. Instrument readings of the standard object, called the standard test, were checked to determine that they were within +/- 20% of the average of all readings taken. After the standard test, an additional stationary test of three minutes was performed in order to check the instrument for repeatability. All three tests were performed with the MTADS EM61 and the MTADS MAG system, whereas only the initial static test was performed with the EM31. The static test was performed at the same location every day. This location is listed in Table 9. Profiles showing the static and standard tests are located in Attachment C (MTADS EM61 Profiles 1–16, MTADS MAG Profiles 1-8, and EM31 Profiles 1-4). The responses of the MTADS MAG and EM31 instruments during static and standard tests were within tolerance limits. The responses of the MTADS EM61 instruments during static and standard tests were not within tolerance limits. A record of the MTADS EM61 response is located in Attachment D, QC Spreadsheets.

Easting	Northing	ID
399409.522	3636909.274	STATIC PT
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 9. STATIC POINT COORDINATES.

The static tests performed during the GPO survey at Holloman showed periodic noise in the data and the tests were not within tolerance. It was first hypothesized that RADAR or other electronic interference from the Air Force Base caused this noise. The GPO grid data collected with this noise was acceptable and did not show any periodic noise. The noise was mostly filtered out with the demedian filter because the period of the periodic noise was greater than the demedian window. To test the ambient electronic noise theory, the equipment was taken to the mountains east of Holloman and tested at the end of the GPO. The noise was still present in the static test. The equipment was taken back to Blackhawk's Golden, CO office for further investigation and repair. The problem was traced to the jumper boxes that synchronize data recording between the three coils. The problem was remedied and the equipment was then tested in Golden and the noise was no longer present. The equipment was returned to Holloman A.F.B. and retested. At this point, the static test showed no signs of periodic noise. EM61 Profiles 38 – 41 display the AM and PM static tests recorded on June 8, 2004. These static tests were within tolerance limits.

The GPO grid data collected with this noise was acceptable and did not show any periodic noise.

4.5 SENSOR HEIGHT OPTIMIZATION TEST

It was determined that the MTADS MAG instrument lower sensor settings of 25 cm would not be suitable due to tall vegetation. Thus, the data were collected with a sensor height of 40 cm.

4.6 SIX LINE TEST

The Six Line Test consisted of six passes of the geophysical instruments over a 50-foot line. The first two passes were performed at normal driving speed with no metallic item placed on the line. The next two passes were conducted at normal driving speed with a metal object (seeded item) placed at the 25-foot mark. The coordinates of the seeded item are listed in Table 10. To simulate data collection downhill where the instrument operator will be driving faster than normal, the fifth pass was performed while driving at a fast pace with the metal object placed at the 25-foot mark. The final pass was performed while driving at a slow pace with the metal object placed at the 25-foot mark, thus simulating data collection uphill where the instrument operator might be driving slower than normal. These tests were performed using the MTADS EM61 and the MTADS MAG. Profiles showing the data are located in Attachment C (MTADS EM61 Profiles 17–22 and MTADS MAG 9-14). The response of the instruments during the six line tests was within tolerance limits. A record of the MTADS EM61 response is located in Attachment D.

Easting	Northing	ID
399414.439	3636943.827	6 Line Test PT
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 10. SIX LINE TEST SEEDED ITEM COORDINATES.

4.7 LATENCY TEST

Prior to and after data collection, the instruments were driven over the trailer ball (2 5/16" uniball) in order to determine the positional accuracy and data repeatability of the instrumentation. The trailer ball's location is listed in Table 11. The latency test was performed driving over the trailer ball in two opposing directions. This test was performed using the MTADS EM61 and the MTADS MAG. However, a railroad tie, located southeast of the GPO grid was used as the latency point for the EM31. During the GPO post-seed data processing, the latency value of +25 ms was used for the MTADS EM61 system, -25 ms for MTADS MAG system, and 800ms for EM31 system. Positional accuracy and data repeatability of the systems were within acceptable limits. MTADS EM61 Profiles 23-34, MTADS MAG Profiles 15-22, and EM31 Profiles 5-8 show data collected during the Latency Test. A record of the MTADS EM61 response during the latency test is located in Attachment D.

Easting	Northing	ID
399414.440	3636943.830	Latency PT
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 11. LATENCY TEST SEEDED ITEM COORDINATES.

4.8 OCTANT TEST

An Octant Test was performed with the MTADS MAG system to determine heading effects. This test was accomplished by collecting a total of eight lines of data in the directions N-S, S-N, NE-SW, SW-NE, E-W, W-E, SE-NW, and NW-SE in a clean area. MTADS MAG Profiles 23-30 show the results of the octant test. Heading effects were less than +/- 1 nT. These values were not removed from the data due to their low amplitude.

4.9 REPEAT LINE TEST

After Post-Seed data were collected, a repeat line of data was recorded to document positional and geophysical data repeatability. The first line of the GPO was used for the Repeat Line Test. MTADS EM61 Profiles 35 through 36 show the data from the Repeat Line Test. The positional and geophysical data repeatability were within acceptable limits.

4.10 CABLE SHAKE TEST

The cable shake/vibration test is performed to verify that there are no electrical problems (breaks, short circuits) in the cables. Prior to data collection, the cables associated with each instrument (MTADS EM61 and MTADS MAG) are manually shaken. All shake tests produced results that were within acceptable limits and no faulty cables were discovered. Cable shake profiles, MTADS EM61 – Profile 37 and MTADS MAG Profile 31, are shown in Attachment C.

4.11 PRE-SEED GPO DATA

The Pre-Seed data is displayed on the following Figures:

Figure 3	GPO GRID 1 Background – MTADS EM61
Figure 7	GPO GRID 1 Background – MTADS MAG

4.12 POST-SEED GPO DATA

The post seed data is displayed on the following Figures:

Figure 4	GPO GRID 1Post Seed – MTADS EM61
Figure 5	GPO GRID 1Post Seed With Target Selections – MTADS EM61
Figure 6	GPO GRID 1 Post Seed With Target Selections Compared to Seeded Items – MTADS EM61
Figure 8	GPO GRID 1 Post Seed – MTADS MAG
Figure 9	GPO GRID 1 Post Seed With Target Selections – MTADS MAG
Figure 10	GPO GRID 1 Post Seed With Target Selections Compared to Seeded Items – MTADS MAG
Figure 11	GPO GRID 1 and GRID 2 North South – EM31 Quadrature Phase
Figure 12	GPO GRID 2 East West – EM31 Quadrature Phase
Figure 13	GPO GRID 1 and GRID 2 North South – EM31 In-Phase
Figure 14	GPO GRID 2 East West – EM31 In-Phase
Figure 16	900 MHz GPR Anomalies – GRID 3 East to West Survey Lines
Figure 17	900 MHz GPR Anomalies – GRID 3 South to North Survey Lines

5.0 DATA PROCESSING

5.1 ELECTROMAGNETIC SYSTEM (MTADS EM61)

All data taken in the field were processed on the same day as it was recorded and checked for data quality and completeness using a laptop computer. The MTADS Data Analysis Software (DAS) program was used to process the data, check the data for quality, pick targets and generate files containing the target locations (xyz files). The MTADS DAS was used to pick the targets, which were later edited. Some targets were removed but most were left in case blind seed items existed in the GPO grid. Each of the targets picked by the MTADS DAS were evaluated as to the validity and position as reported in the GPO seeded items list. Target location files (xyz files) of the data were sent to Blackhawk GeoServices main office in Golden for QC analysis. The files were also uploaded to the ZAPATAENGINEERING web site for access by ZAPATAENGINEERING'S personnel and authorized users.

Data processing steps in the MTADS DAS include, but were not limited to:

- Reviewing the field data sheets and log forms for completeness;
- Reviewing the static instrument standardization files to verify repeatability of amplitude response;
- Applying an additional instrument drift correction;
- Monitoring the data for gaps or incomplete coverage;
- Monitoring the survey line separation;
- Visually comparing the target anomaly selections to the DGM anomalies generated by the known seeded items;
- Monitoring and applying lag corrections when necessary;
- Tracking data processing steps to ensure all data are processed in the same manner;
- Producing an output of the final data in *.xyz (ASCII) format;
- Converting the spatial coordinates to NAD83 UTM coordinates;
- Generating target lists with location and peak value.

The XYZ files were then imported into Oasis montaj. Profiles of the QC Tests were created and were exported into Corel Draw where final profile figures were created. All profiles are displayed in Attachment C. The Bottom Channel Filtered Data were gridded with a 0.2m grid cell size and a 1.0m blanking distance. All of the final maps were created in Oasis montaj.

5.2 MAGNETIC SYSTEM (MTADS MAG)

The magnetic data was processed in the same manner as the MTADS EM61 data. The data were first processed in the MTADS DAS, where processing steps included, but were not limited to:

- Reviewing the field data sheets and log forms for completeness;
- Reviewing the static instrument standardization files to verify repeatability of amplitude response;
- Applying an additional instrument drift correction;
- Applying a diurnal correction;
- Monitoring the data for gaps or incomplete coverage;

- Monitoring the survey line separation;
- Visually comparing the target anomaly selections to the DGM anomalies generated by the known seeded items;
- Monitoring and applying the heading and lag corrections when necessary;
- Tracking the data processing steps to ensure all data are processed in the same manner;
- Producing an output of the final data in *.xyz (ASCII) format;
- Converting the coordinates to NAD83 UTM coordinates;
- Producing target lists with location and peak value.

The XYZ files were then imported into Oasis montaj. Profiles of the QC Tests were created and exported into Corel Draw where final profile figures were created. All profiles are displayed in Attachment C. The eight sensor data were gridded with a 0.2m grid cell size and a 1.0 m blanking distance. All final maps were created in Oasis montaj.

5.3 EM GROUND CONDUCTIVITY (EM31)

The electrical conductivity data were downloaded from the data logger and imported into the Dat 31W software. The EM31 data and the GPS data were merged and a xyz file was generated from this program.

The xyz file was then imported into Oasis montaj and a lag correction applied to the data. Profiles of the QC Tests were created and then exported into Corel Draw where final profile figures were created. All profiles are displayed in Attachment C. The data were gridded with a 0.5 m grid cell size and a 2.0 m blanking distance. All of the final maps were created in Oasis montaj.

5.4 GROUND PENETRATING RADAR SYSTEM (SIR 10B)

The GPR data, which were stored in the SIR 10B, were downloaded to a laptop computer for on-site review and editing. The 200 and 900 MHz data were then imported into the GSSI program called RADAN 5.0 where corrections for travel time, distance, and display gain were made. A background removal filter was applied to the 900MHz data to remove banding (”ringing”) in the data.

The GPR processing steps used included, but were not limited to:

- Positional and distance corrections;
- Time zero adjustment to obtain accurate depth estimations, and;
- A background removal to remove flat lying banding in the data where individual targets may be encountered.

Accurate depth positioning of known items in the 900 MHz data required a dielectric constant between 20 and 30. Profiles generated in Radan were exported as screen captures and imported into Corel Draw for presentation purposes. All the GPR data are displayed in Attachment C. The GPR profiles are displayed using English units because English units were used during data collection.

6.0 ANALYSIS AND RECOMMENDATIONS

6.1 ELECTROMAGNETIC SYSTEM

A total of 39 targets were selected from the MTADS EM61 data collected over GRID 1. The targets were selected before the locations of the grid corners were known; thus, some of the targets are outside the grid. The 39 targets selected by Blackhawk along with the known seeded items are shown superimposed on the data in Figure 5. Table 12 lists the targets selected by Blackhawk. The MTADS EM61 system located all of the seeded items within the GPO area that were known to the Blackhawk personnel. Table 13 compares the targets selected by Blackhawk to the known seeded items. For the following discussion please refer to Figure 6. One seeded item was located within a 1.5-meter radius (4.9 feet) from its true location. A total of six seeded items were found within a one-meter radius (3.3 feet), and the remaining 11 seeded items were found within a half-meter radius (1.6 feet). Due to the EM61 ability to accurately locate the seeded items, the MTADS EM61 system will be used for additional geophysical investigations at Holloman.

Target_ID	Easting (m)	Northing (m)	Magnitude (mV)	Target_ID	Easting (m)	Northing (m)	Magnitude (mV)
1	399380.34	3636897.23	7.78	21	399398.76	3636931.43	6.38
2	399380.14	3636895.63	7.12	22	399391.35	3636934.63	16.5
3	399380.54	3636897.63	6.75	23	399401.56	3636941.03	16.69
4	399381.14	3636896.03	4.88	24	399392.55	3636941.23	59.25
5	399395.55	3636902.83	374.72	25	399390.95	3636941.63	6.17
6	399387.55	3636904.43	490.88	26	399403.96	3636955.23	35.62
7	399385.75	3636904.23	7.07	27	399394.35	3636956.83	14.25
8	399377.54	3636904.03	28.75	28	399405.36	3636962.83	16.5
9	399397.35	3636910.43	196.69	29	399408.76	3636964.83	6.56
10	399378.94	3636910.43	17.44	30	399396.15	3636968.23	12
11	399388.15	3636911.83	366.28	31	399405.76	3636970.43	17.62
12	399379.14	3636916.43	35.72	32	399387.55	3636973.23	8.25
13	399398.16	3636917.83	89.91	33	399397.35	3636977.63	8.25
14	399389.55	3636919.23	150	34	399406.56	3636978.83	4.69
15	399380.14	3636922.43	7.12	35	399402.96	3636987.03	12
16	399399.96	3636925.63	83.25	36	399398.16	3636987.23	5.69
17	399390.15	3636927.03	15	37	399411.56	3636987.43	5.25
18	399388.35	3636925.83	5.25	38	399395.95	3636988.23	7.78
19	399382.15	3636929.03	234.38	39	399415.57	3636991.63	4.88
20	399380.74	3636927.43	17.16	Coordinates are listed in NAD 83 UTM Zone 13N			

TABLE 12. MTADS EM61 POST SEED ANOMALIES SELECTIONS.

Seeded Item Target_ID	X (UTMm)	Y (UTMm)	Line	Description	Orientation Relative to Path	Depth to the top (inches)	Matching Picked Target ID	Matching Picked Target Response (mV)
124	399387.498	3636904.067	30	SC#377	vertical	12	6	490.88
126	399395.6345	3636902.73	60	RC1	vertical	12	5	374.72
129	399388.4966	3636911.515	30	SC#385	perpendicular	12	11	366.28
133	399397.127	3636910.219	60	RC2	perpendicular	12	9	196.69
136	399389.4754	3636918.916	30	B#389	vertical	16	14	150
139	399398.2772	3636917.518	60	B#388	parallel	16	13	89.91
143	399390.5613	3636926.567	30				17	15
146	399399.5873	3636925.395	60	B#387	perpendicular	16	16	83.25
150	399391.5739	3636934.111	30	B#390	parallel	33	22	16.5
154	399392.6577	3636941.131	30	B#383	vertical	36	24	59.25
157	399401.6794	3636940.309	60	B#391	perpendicular	33	23	16.69
162	399394.529	3636956.103	30	SC#378	parallel	47	27	14.25
166	399403.9276	3636955.009	60	SC#382	perpendicular	36	26	35.62
170	399396.0226	3636967.783	30	SC#381	parallel	60	30	12
174	399405.0662	3636962.466	60	SC#386	perpendicular	48	28	16.5
177	399406.0828	3636970.02	60	SC#379	vertical	48	31	17.62
179	399397.6936	3636977.25	30	SC#380	vertical	60	33	8.25
182	399407.2504	3636977.901	60	SC#384	parallel	60	34	4.69
Coordinates are listed in NAD 83 UTM Zone 13N								

TABLE 13. MTADS EM61 SEED ITEM DETAILS WITH PICKED TARGET RESPONSE.

6.2 MAGNETIC SYSTEM

Blackhawk selected a total of 16 targets from the MTADS MAG data (Table 14). Targets were selected from the analytical signal data. The MTADS MAG system located nine out of 18 seeded items (see Figure 8). The 16 targets selected by Blackhawk along with the known seeded items are shown superimposed on the magnetic data collected over GRID 1 in Figure 9. Table 15 compares the targets selected by Blackhawk to the known seeded items. In total, Blackhawk located nine of 18 targets. One target was found within a radius of one-meter (3.3 feet), and eight seeded items were found within a radius of 0.5 meter (1.6 feet). The remaining seven targets did not correlate with seeded items. This instrument will not be used for further investigations due to its lack of ability to locate all the known seed items.

Target_ID	Easting (m)	Northing (m)	Magnitude (nT)	Target_ID	Easting (m)	Northing (m)	Magnitude (nT)
1	399395.55	3636902.83	120.6	10	399399.96	3636925.43	98
2	399387.15	3636904.23	52.17	11	399382.35	3636929.03	69.19
3	399377.74	3636904.03	8.8	12	399391.35	3636934.63	15.78
4	399396.95	3636910.43	44.75	13	399402.16	3636940.43	18.35
5	399388.55	3636911.63	47.91	14	399407.96	3636961.43	11.72
6	399398.36	3636917.83	76.74	15	399400.76	3636983.63	13.55
7	399389.35	3636919.23	87.65	16	399412.76	3636992.23	8.05
8	399380.14	3636922.43	13.1	Coordinates are listed in NAD 83 UTM Zone 13N			
9	399389.15	3636924.43	10.64				

TABLE 14. MTADS MAG POST SEED ANOMALIES SELECTIONS.

Seeded Item Target_ID	X (UTMm)	Y (UTMm)	Line	Description	Orientation Relative to Path	Depth to the top (inches)	Matching Picked Target ID	Matching Picked Target Response (nT)
124	399387.498	3636904.067	30	SC#377	vertical	12	2	52.17
126	399395.6345	3636902.73	60	RC1	vertical	12	1	120.6
129	399388.4966	3636911.515	30	SC#385	perpendicular	12	5	47.91
133	399397.127	3636910.219	60	RC2	perpendicular	12	4	44.75
136	399389.4754	3636918.916	30	B#389	vertical	16	7	87.65
139	399398.2772	3636917.518	60	B#388	parallel	16	6	76.74
143	399390.5613	3636926.567	30				not found	not found
146	399399.5873	3636925.395	60	B#387	perpendicular	16	10	98
150	399391.5739	3636934.111	30	B#390	parallel	33	12	15.78
154	399392.6577	3636941.131	30	B#383	vertical	36	not found	not found
157	399401.6794	3636940.309	60	B#391	perpendicular	33	13	18.35
162	399394.529	3636956.103	30	SC#378	parallel	47	not found	not found
166	399403.9276	3636955.009	60	SC#382	perpendicular	36	not found	not found
170	399396.0226	3636967.783	30	SC#381	parallel	60	not found	not found
174	399405.0662	3636962.466	60	SC#386	perpendicular	48	not found	not found
177	399406.0828	3636970.02	60	SC#379	vertical	48	not found	not found
179	399397.6936	3636977.25	30	SC#380	vertical	60	not found	not found
182	399407.2504	3636977.901	60	SC#384	parallel	60	not found	not found
Coordinates are listed in NAD 83 UTM Zone 13N								

TABLE 15. MTADS MAG SEED ITEM DETAILS WITH PICKED TARGET RESPONSE.

6.3 EM GROUND CONDUCTIVITY SYSTEM

The EM31 was run in both a north-south direction over GRID 1 and GRID 2 and east-west direction over Grid 2 (Figures 11-14). The EM31 system was unable to detect any difference in electrical conductivity between the disturbed and undisturbed ground. Furthermore, the EM31

data did not show any sign of the buried seed items from GRID 1. The EM31 did show a large variation in the ground conductivity over the GPO grid ranging from approximately 25-65 mS/m.

6.4 GROUND PENETRATING RADAR SYSTEM

GPR data, using a 200 MHz antenna, were collected over the 19.8-meter x 21.33-meter (65-foot x 70-foot) GPO GRID 2 known to contain two trenches. Data were collected from west to east. A total of 15 lines were collected (shown in Attachment C). The trenches are centered on 6.1 and 13.7 meters (20 feet and 45 feet). Layer discontinuity is visible in some of the GPR files over the known trenches; however, no trend is noticeable from profile to profile. This method did not successfully locate the areas of disturbed ground (trenches).

Figure 15 shows the layout of the 2.1-meter x 5.2-meter (7-foot x 17-foot) grid where 12 vials were buried at various depths and orientations. Data were collected with the 900 MHz antenna using a 15 cm (0.5 foot) line spacing. This resulted in a total of 15 survey lines collected in a south to north direction and 35 lines collected in a west to east direction.

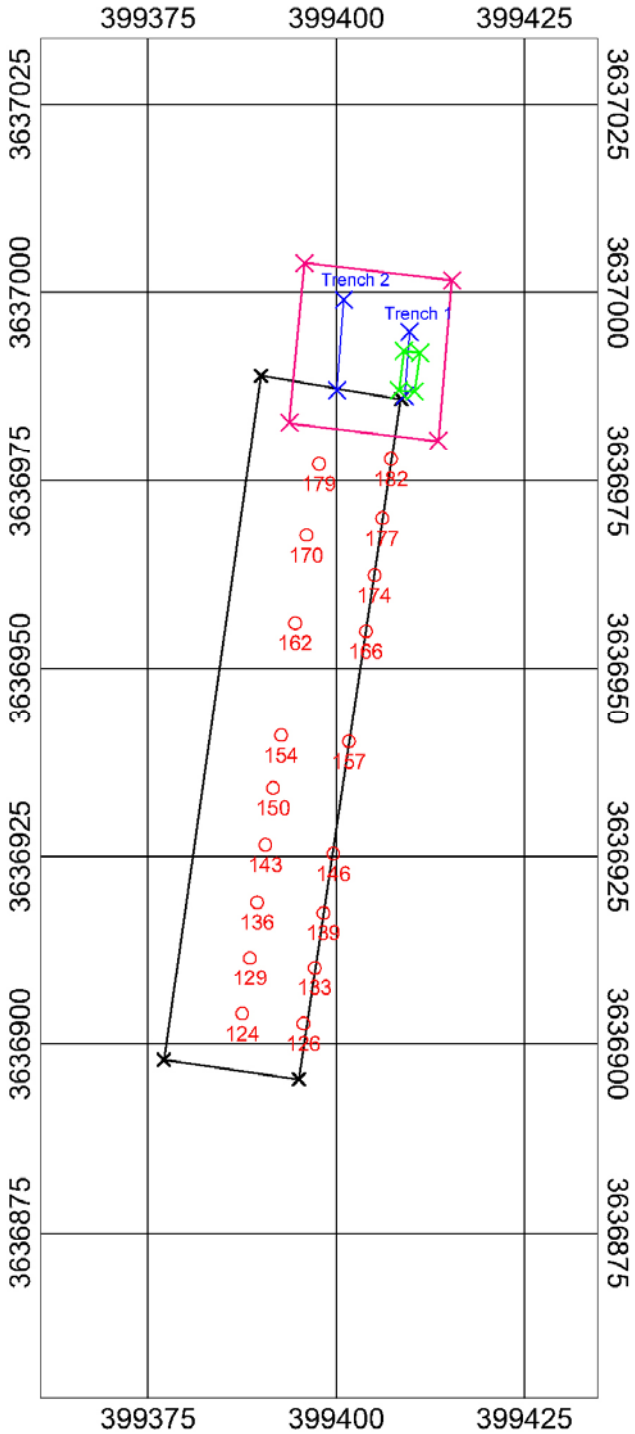
Analysis of the data shows that the GPR was capable of detecting all the vials to a depth of 15 cm (0.5 foot). Vials were only detected when the survey lines were collected perpendicular to the orientation of, and directly over, the vial. Along two survey lines, GX1.5 and GL10, vials were detected at depths greater than 15 cm (0.5 foot). Figure 16 shows all of the vials located when data were collected in the west to east direction, and Figure 17 shows the three south to north lines that contain anomalies that coincide with vials. Table 16 lists each survey line in the west to east direction and the location of any vial detected. Table 17 lists each survey line in the south to north direction and the location of any vial detected. Although the GPR did detect the vials to depths of six inches, this survey method requires that survey lines be collected perpendicular to one another using line spacing no wider than the width of the antenna, which is approximately 18 cm. The EM31 surveys over the GPO Grid showed a wide conductivity range. This infers that although the GPR data were effective at detecting vials to depths of 15 cm, the conductivity values, which influence the depth of penetration of the GPR method, vary widely over the site, and thus the depth of detection would vary greatly over the site.

900 MHz Antenna GPR Grid					
W-E Lines Unidirectional from West=0 to East=7ft, only mark at 0 and 7					
File Name	Line	Start (w)	End (e)	Anomaly	Comments
GL0	0 ft	0	7	None	
GL0_5	0.5	0	7	None	
GL1	1	0	7	None	
GL1_5	1.5	0	7	None	
GL2	2	0	7	None	
GL2_5	2.5	0	7	None	
GL3	3	0	7	None	
GL3_5	3.5	0	7	3"	
GL4	4	0	7	None	
GL4_5	4.5	0	7	None	
GL5	5	0	7	None	
GL5_5	5.5	0	7	None	
GL6	6	0	7	None	
GL6_5	6.5	0	7	None	
GL7	7	0	7	None	
GL7_5	7.5	0	7	None	
GL8	8	0	7	None	
GL8_5	8.5	0	7	None	
GL9	9	0	7	None	
GL9_5	9.5	0	7	6"	
GL10	10	0	7	6"	Item located at the 12" location but is at 0.20 - 0.22 cm
GL10_5	10.5	0	7	None	
GL11	11	0	7	None	
GL11_5	11.5	0	7	None	
GL12	12	0	7	None	
GL12_5	12.5	0	7	None	
GL13	13	0	7	None	
GL13_5	13.5	0	7	None	
GL14	14	0	7	None	
GL14_5	14.5	0	7	None	
GL15	15	0	7	None	
GL15_5	15.5	0	7	None	
GL16	16	0	7	None	
GL16_5	16.5	0	7	None	
GL17	17	0	7	None	

TABLE 16. 900 MHZ EAST TO WEST GPO GRID 3 GPR LINE RESULTS.

900 MHz Antenna GPR Grid					
File Name	Unidirectional from South=0 to North=17				
File	Line	Start (s)	End (n)	Anomaly	Comment
GX0	0	0	17	None	
GX0_5	0.5	0	17	None	
GX1	1	0	17	None	
GX1_5	1.5	0	17	9"	Item located at the 12" location but is at 0.20 - 0.22 cm and is south of location by 8-9"
GX2	2	0	17	None	
GX2_5	2.5	0	17	None	
GX3	3	0	17	None	
GX3_5	3.5	0	17	3"	
GX4	4	0	17	3" and 6"	
GX4_5	4.5	0	17	None	
GX5	5	0	17	None	
GX5_5	5.5	0	17	None	
GX6	6	0	17	None	
GX6_5	6.5	0	17	None	
GX7	7	0	17	None	

TABLE 17. 900 MHZ SOUTH TO NORTH GPO GRID 3 GPR LINE RESULTS.



25 0
metres
NAD 83 UTM Zone 13N

Explanation	
×	GPO GRID 1 Corner
/	GPO GRID 1 Outline
×	GPO GRID 2 Corner
/	GPO GRID 2 Outline
×	GPO GRID 3 Corner
/	GPO GRID 3 Outline
×	Trench Endpoint
/	Trench Path
○	GRID 1 Seeded Items
4	GRID 1 Seeded Items ID

Target_ID	Description	Orientation Relative to Path	Depth to the top (meters)	Depth to the top (inches)
124	SC#377	vertical	0.3	12
126	RC1	vertical	0.3	12
129	SC#385	perpendicular	0.3	12
133	RC2	perpendicular	0.3	12
136	B#389	vertical	0.41	16
139	B#388	parallel	0.41	16
143				
146	B#387	perpendicular	0.41	16
150	B#390	parallel	0.84	33
154	B#383	vertical	0.91	36
157	B#391	perpendicular	0.84	33
162	SC#378	parallel	1.19	47
166	SC#382	perpendicular	0.91	36
170	SC#381	parallel	1.52	60
174	SC#386	perpendicular	1.22	48
177	SC#379	vertical	1.22	48
179	SC#380	vertical	1.52	60
182	SC#384	parallel	1.52	60

Coordinates are listed in NAD 83 UTM Zone 13N

RC = REAL CAN

SC = SIMULATED CAN

B = BOMBLET

Note: Targets in GRID 3 are not shown.

Blackhawk
Geophysical & UXO Services
Golden, Colorado

As-Built Map
GRID 1, GRID 2, GRID 3,
Trenches, and Seeded Items

Holloman AFB
New Mexico

Figure No.
1

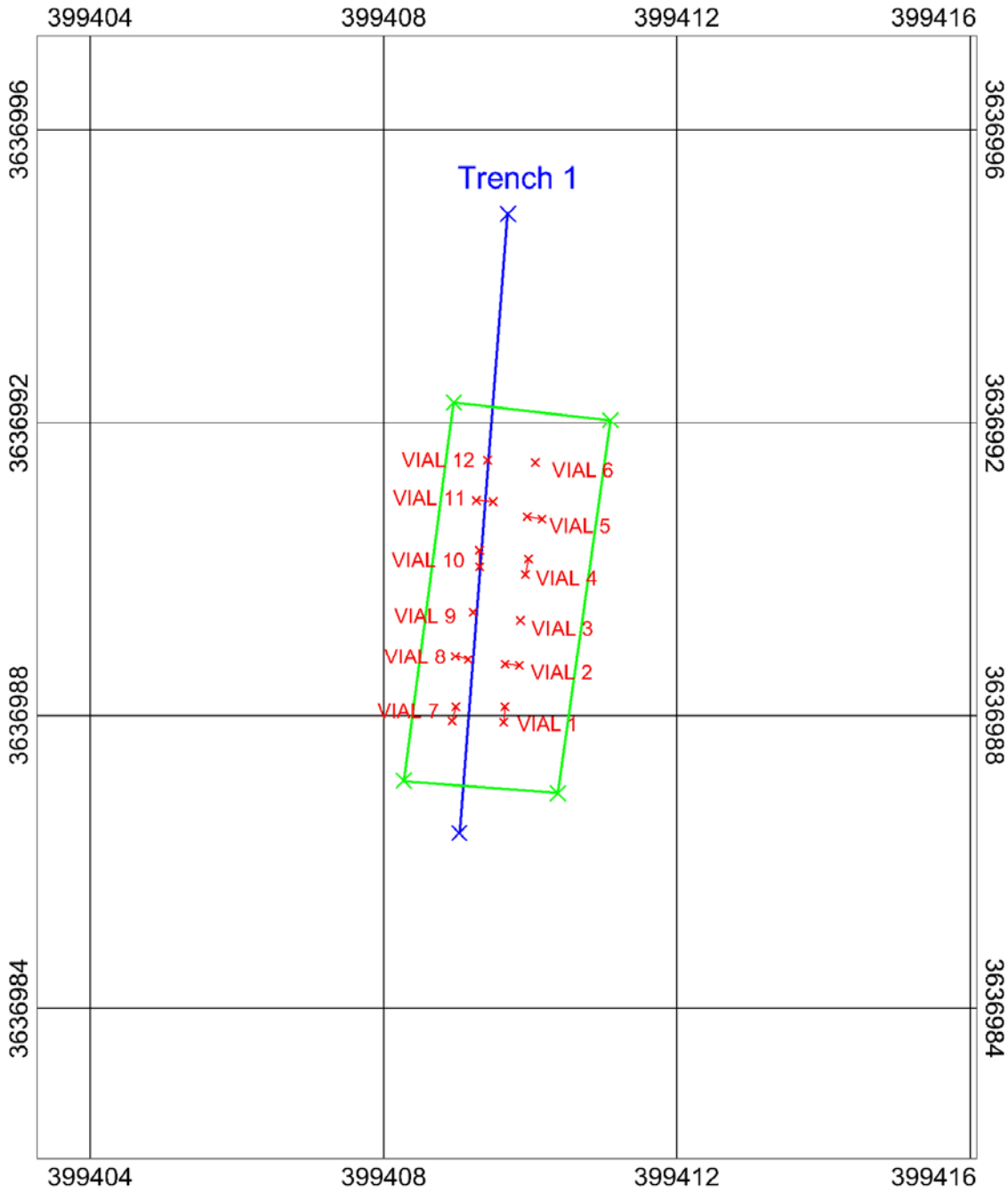
Project No.
0401-008

File
Figure

PM:
J.P.

Date:
06/04

Zapata Engineering



Explanation

- GPO GRID 3 Corner
- GPO GRID 3 Outline
- GRID 3 Seeded Items
- VIAL 5 GRID 3 Seeded Items ID
- Trench Endpoint
- Trench Path

1 0 1 2
metres
NAD 83 UTM Zone 13N

Target_ID	Depth (inches)	Depth (meters)	Description	Orientation
VIAL 1	3	0.076	Glass Vial	North-South
VIAL 2	3	0.076	Glass Vial	East-West
VIAL 3	3	0.076	Glass Vial	Vertical
VIAL 4	6	0.15	Glass Vial	North-South
VIAL 5	6	0.15	Glass Vial	East-West
VIAL 6	6	0.15	Glass Vial	Vertical
VIAL 7	9	0.23	Glass Vial	North-South
VIAL 8	9	0.23	Glass Vial	East-West
VIAL 9	9	0.23	Glass Vial	Vertical
VIAL 10	12	0.3	Glass Vial	North-South
VIAL 11	12	0.3	Glass Vial	East-West
VIAL 12	12	0.3	Glass Vial	Vertical

Coordinates are listed in NAD 83 UTM Zone 13N

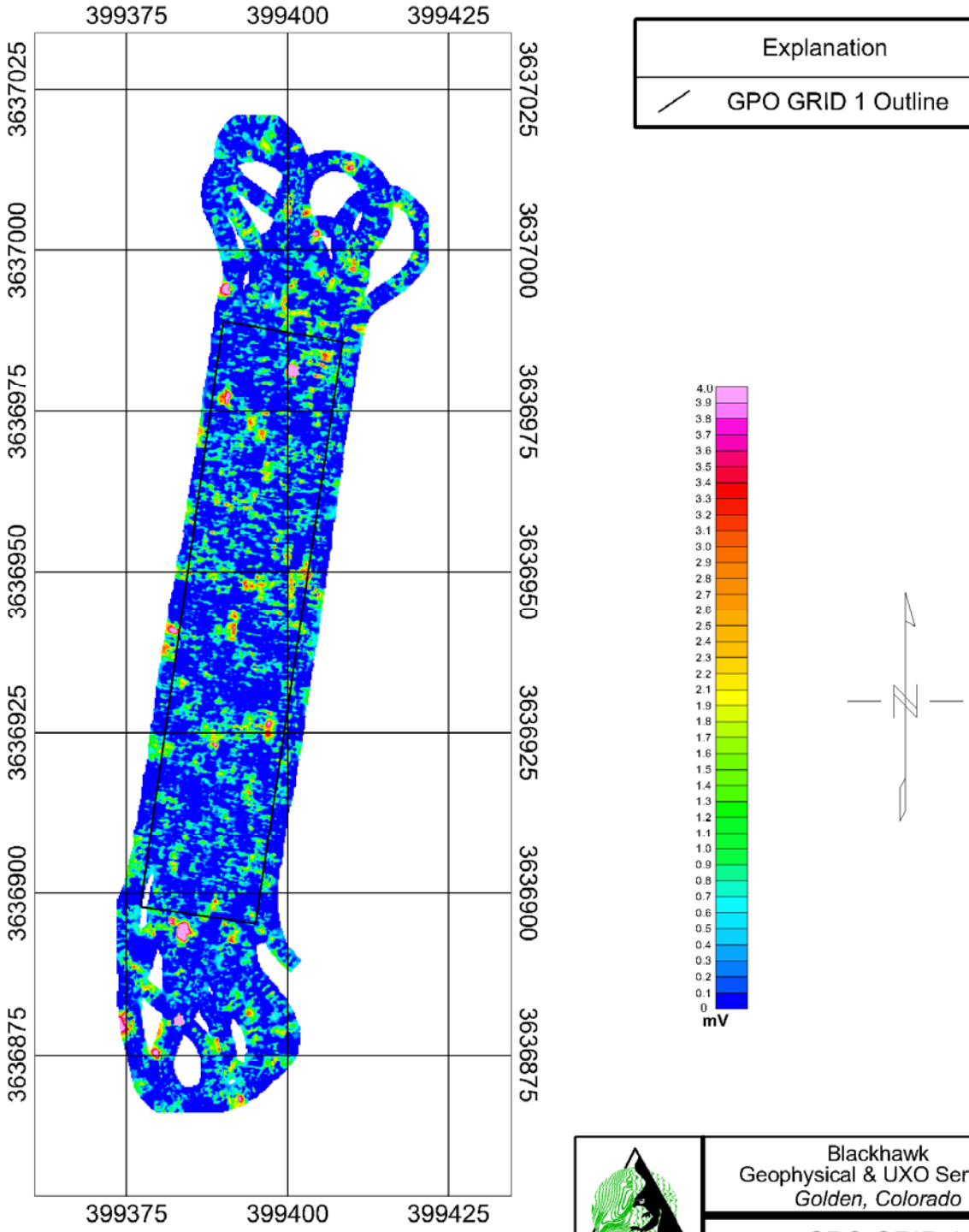
Blackhawk
Geophysical & UXO Services
Golden, Colorado

As-Built Map
GRID 3
Trenches and Seeded Items

Holloman AFB
New Mexico

Figure No.
2
Project No.
0401-008
File
Figure
PM:
J.P.
Date:
06/04

Zapata Engineering



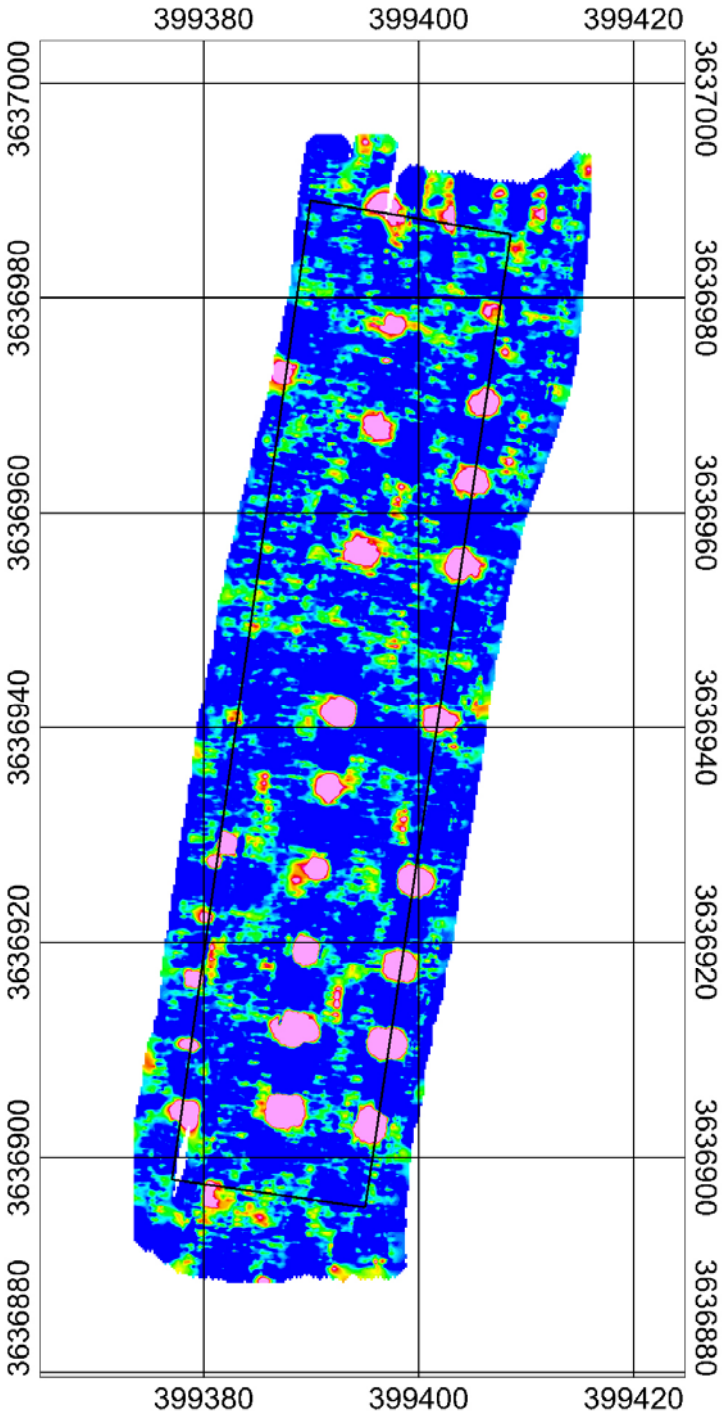
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS EM61 Data
Pre-Seeded Map

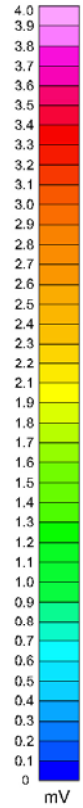
Holloman AFB
New Mexico

Figure No.
3
Project No.
0401-008
File
Figures
PM:
J.P.
Date:
06/04

Zapata Engineering



Explanation
GPO GRID 1 Outline



10 0 10

metres

NAD 83 UTM Zone 13N

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS EM61 Data
Post-Seeded Map

Holloman AFB
New Mexico

Figure No.
4

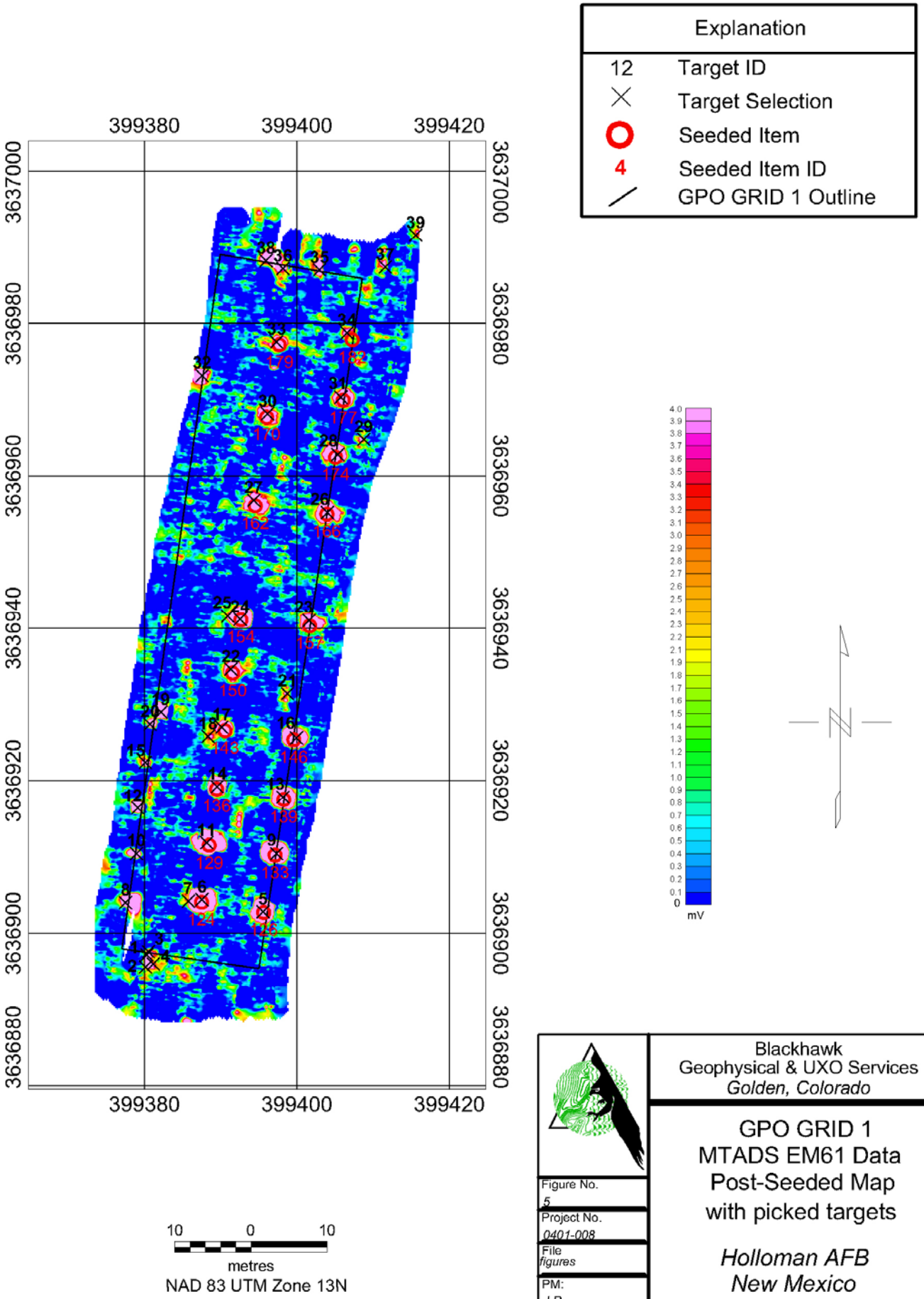
Project No.
0401-008

File
Figures

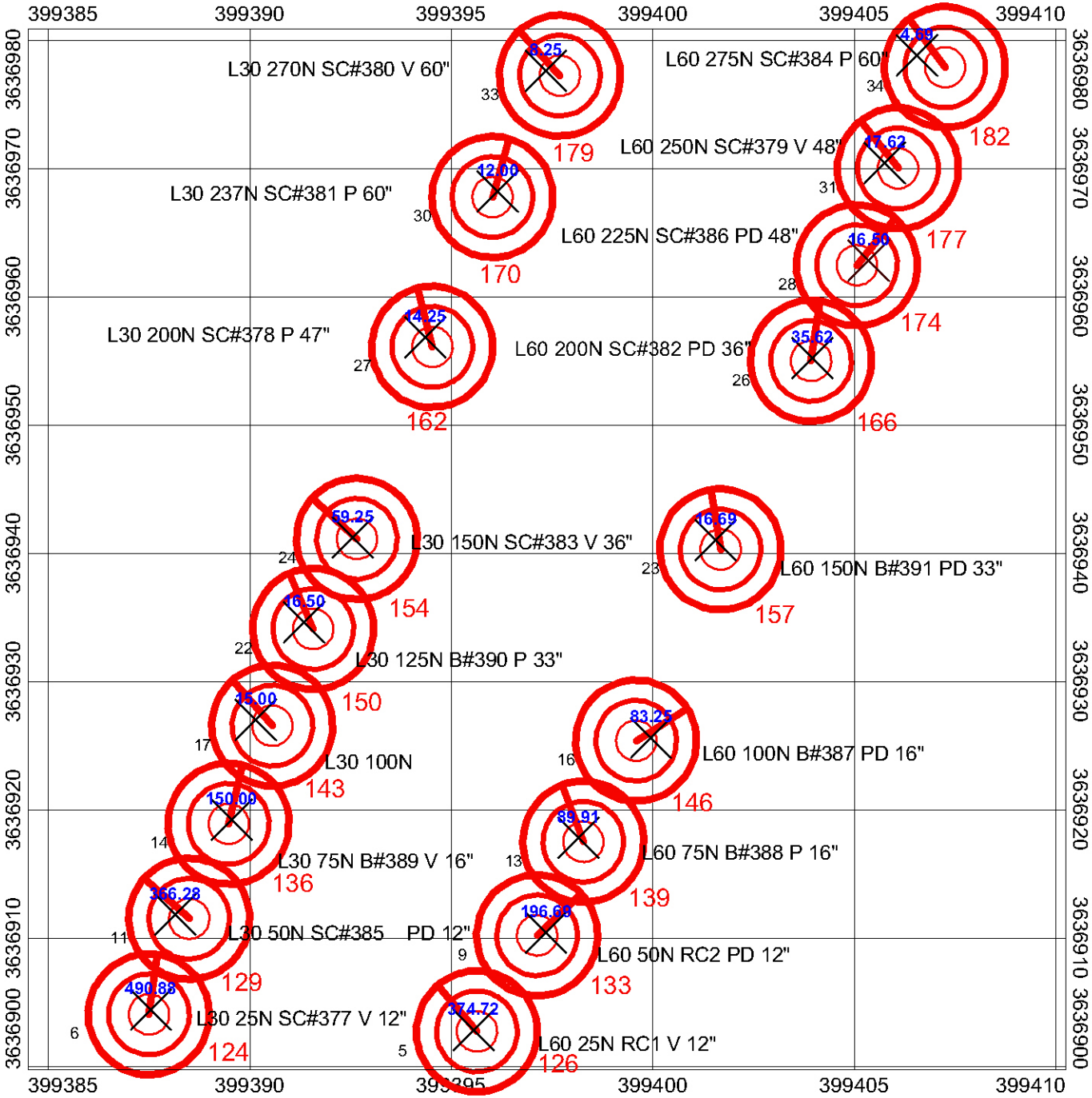
PM:
J.P.

Date:
5/21/04

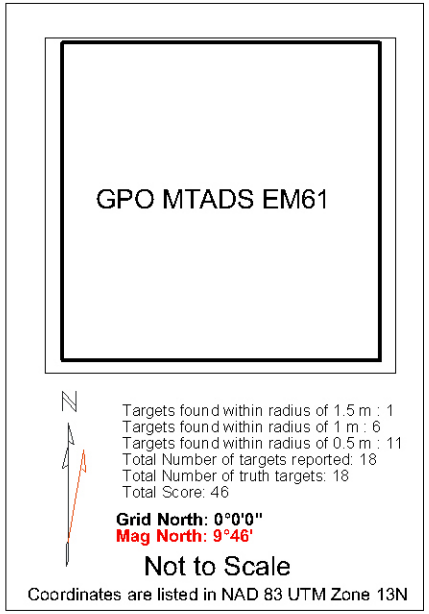
Zapata Engineering


Explanation
12 Target ID
Target Selection
Seeded Item
4 Seeded Item ID
GPO GRID 1 Outline
399380
399400
399420
3637000
3636980
3636960
3636940
3636920
3636900
3636880
mV
10 0 10
metres
NAD 83 UTM Zone 13N
Blackhawk
Geophysical & UXO Services
Golden, Colorado
GPO GRID 1
MTADS EM61 Data
Post-Seeded Map
with picked targets
Holloman AFB
New Mexico
Figure No.
5
Project No.
0401-008
File
figures
PM:
J.P.
Date:
5/21/04
Zapata Engineering

DESCRIPTION: L30 is Line 30 25N is 25 feet North SC#377 is Seed Item Number V is vertical PD is perpendicular P is parallel 12" is depth (inches) to the top of item



Explanation	
×	Target ID
12	Target Selection
⊙	Seeded Item
4	Seeded Item ID
25.22	Target Magnitude (mV)
L60 275N SC#384 V 60"	Target Description



November 2004
Revision 1

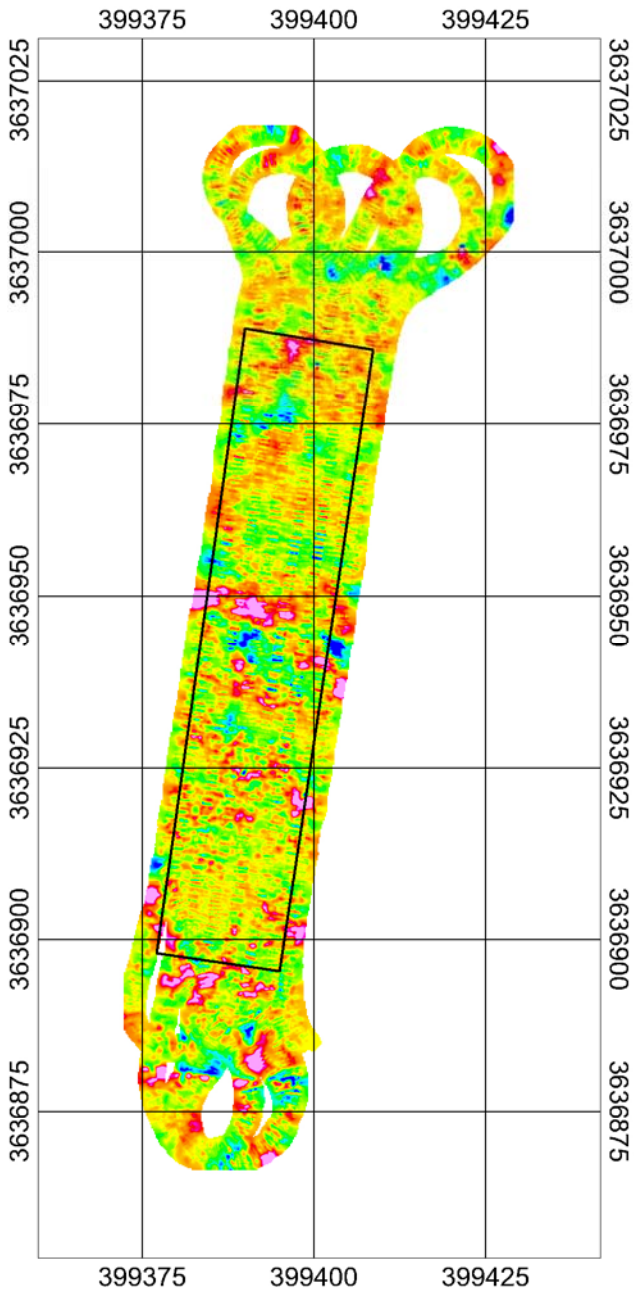
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS EM61
Picked Versus Seeded
Items Results

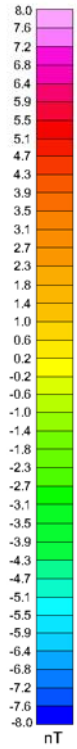
Holloman AFB
New Mexico

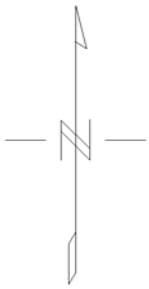
Figure No. *6*
Project No. *0401-008*
File *figures*
PM: *J.P.*
Date: *06/04*

Zapata Engineering



Explanation
GPO GRID 1 Outline





25 0

metres

NAD 83 UTM Zone 13N

November 2004
Revision 1

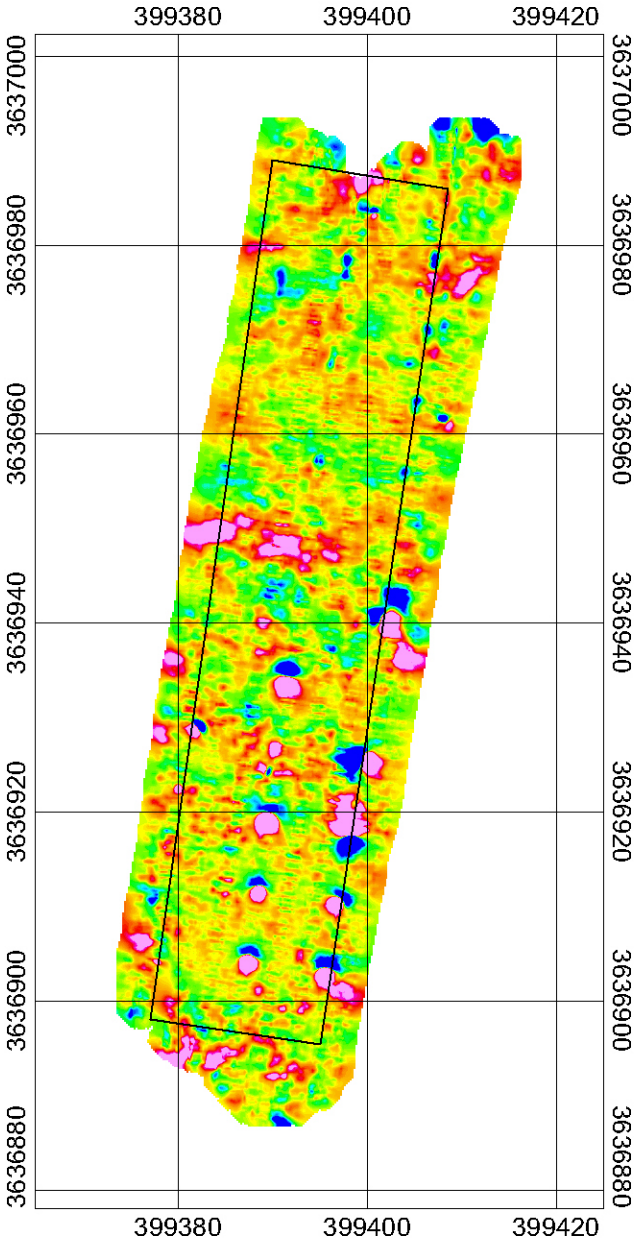
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS MAG Data
Pre-Seeded Map

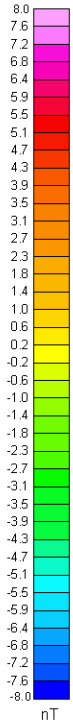
Holloman AFB
New Mexico

Figure No.
7
Project No.
0401-008
File
Figures
PM:
J.P.
Date:
5/17/04

Zapata Engineering



Explanation
GPO GRID 1 Outline



Grid North: 0°0'0"

Mag North: 9°46'

10 0 10

metres

NAD 83 UTM Zone 13N

November 2004
Revision 1

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS MAG Data
Post-Seeded Map

Holloman AFB
New Mexico

Figure No.
8

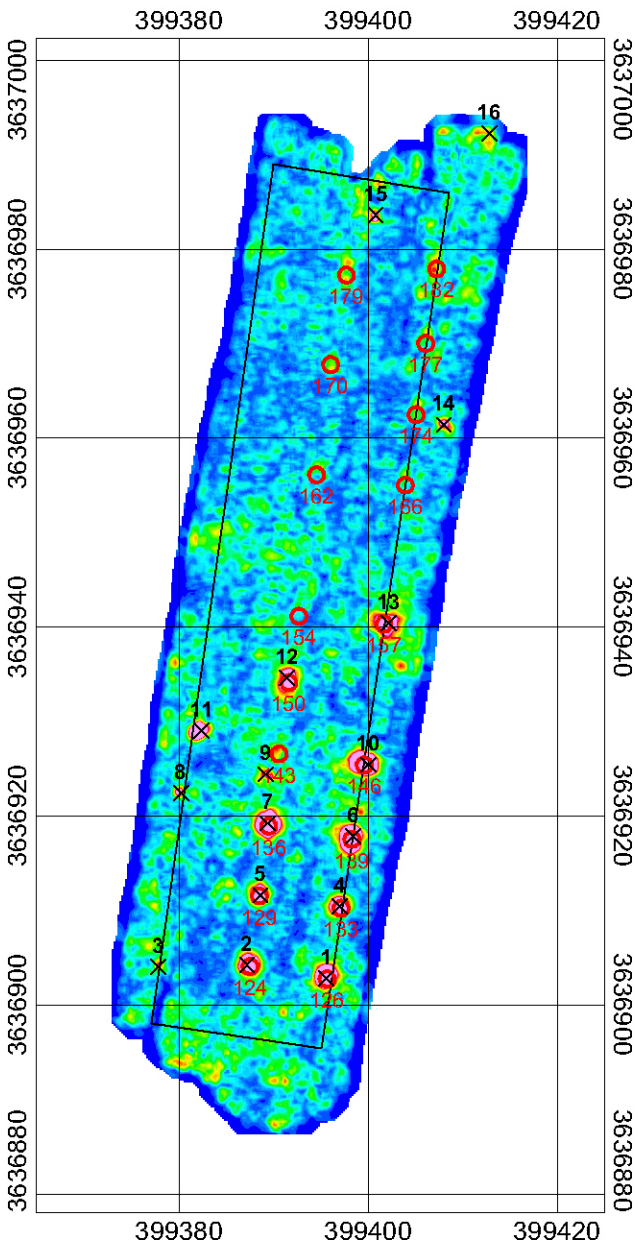
Project No.
0401-008

File
Figures

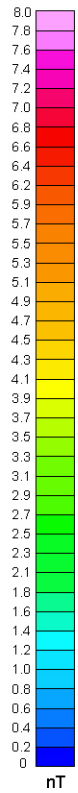
PM:
J.P.

Date:
5/21/04

Zapata Engineering



Explanation	
12	Target ID
	Target Selection
	Seeded Item
4	Seeded Item ID
	GPO Grid Outline



Grid North: 0°0'0"

Mag North: 9°46'

10 0 10

metres

NAD 83 UTM Zone 13N

November 2004
Revision 1

Blackhawk
Geophysical & UXO Services
Golden, Colorado

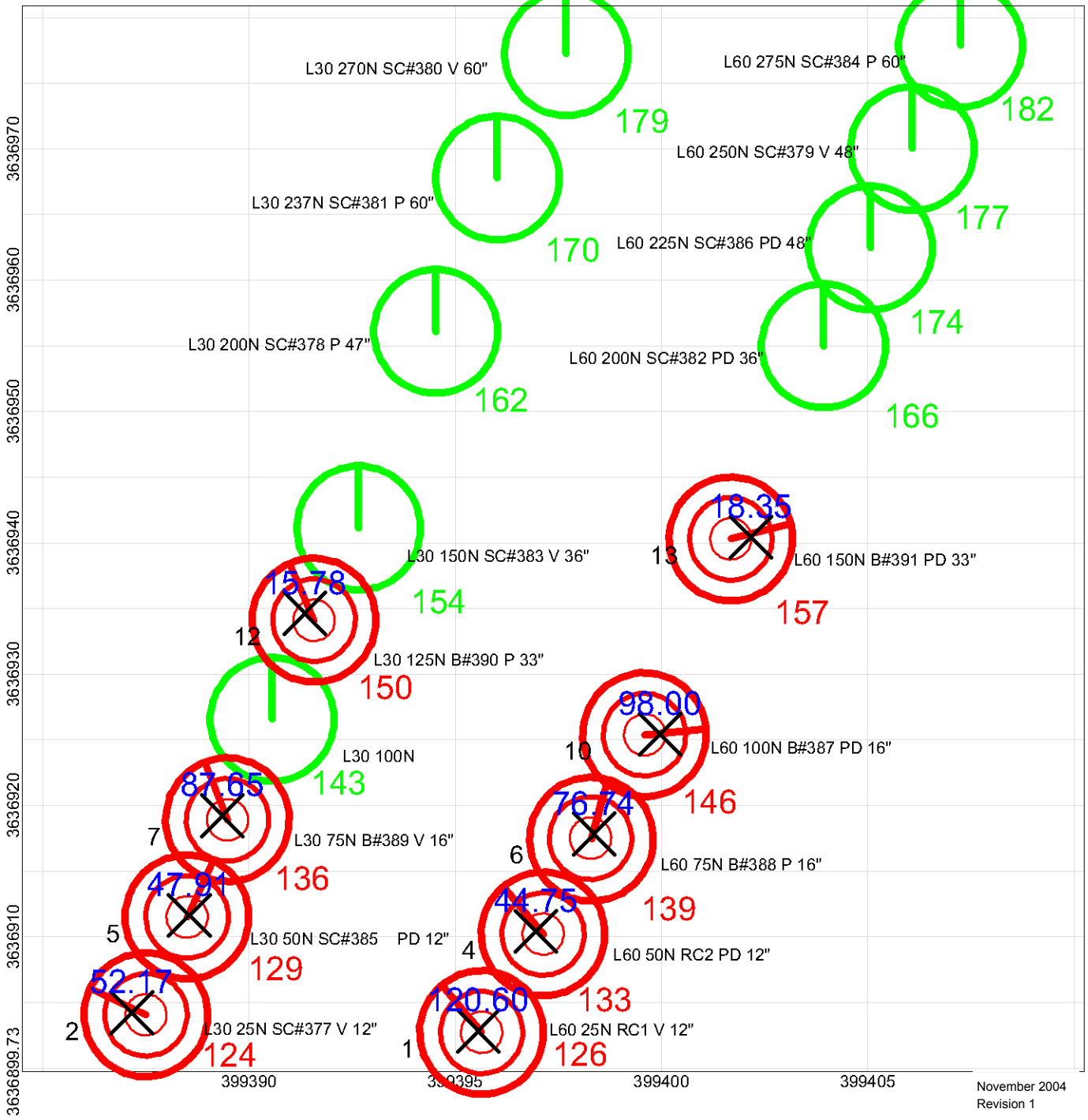
GPO GRID 1
MTADS MAG Data
Post-Seeded Map
with boxcar filter, analytic
signal, and picked targets

Holloman AFB
New Mexico

Figure No.
9
Project No.
0401-008
File
Figures
PM:
J.P.
Date:
5/21/04

Zapata Engineering

DESCRIPTION: L30 is Line 30 25N is 25 feet North SC#377 is Seed Item Number V is vertical PD is perpendicular P is parallel 12" is depth (inches) to the top of item



November 2004
Revision 1

Explanation

×	Target ID
12	Target Selection
	Seeded Item (Located)
4	Seeded Item ID (Located)
	Seeded Item (Not Located)
4	Seeded Item ID (Not Located)
25.22	Target Magnitude (nT)
L60 275N SC#384 V 60"	Target Description

GPO MTADS MAG

Targets found within radius of 1 m : 1
Targets found within radius of 0.5 m : 8
Total Number of targets reported: 9
Total Number of truth targets: 18
Total Score: 26

Grid North: 0°0'0"
Mag North: 9°46'

Not to Scale

Coordinates are listed in NAD 83 UTM Zone 13N

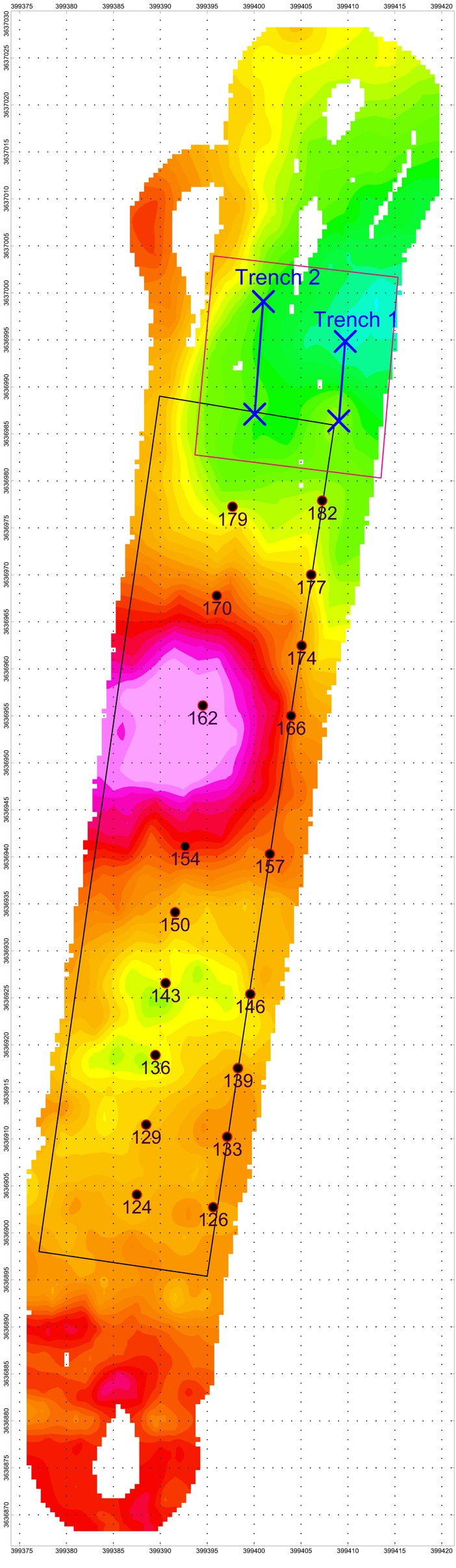
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS MAG
Picked Versus Seeded
Items Results

Holloman AFB
New Mexico

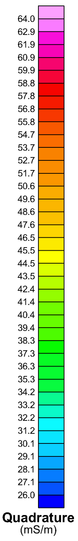
Figure No. *10*
Project No. *0401-008*
File *figures*
PM: *J.P.*
Date: *06/04*

Zapata Engineering



Explanation

- GPO GRID 2 Outline
- GPO GRID 1 Outline
- Trench Endpoint
- Trench Path
- GRID 1 Seeded Items
- 4 GRID 1 Seeded Items ID



Scale 1:200

2.5 0 2.5 5 7.5 10 12.5

metres

NAD 83 UTM Zone 13N

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1 and GRID 2
EM31 Data
Quadrature Phase
NS Lines

Holloman AFB
New Mexico

Figure No.
11

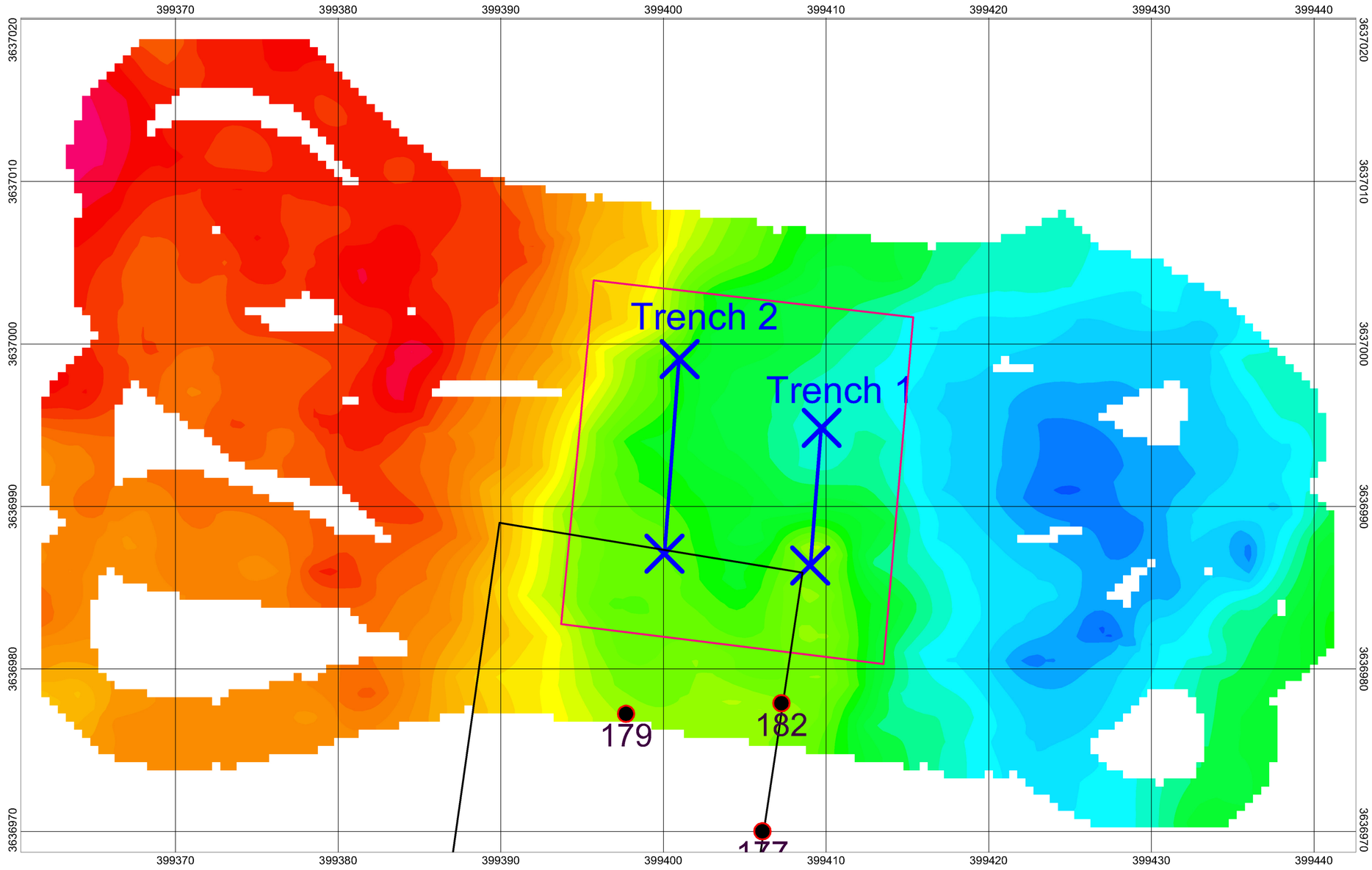
Project No.
0401-008

File
Figures

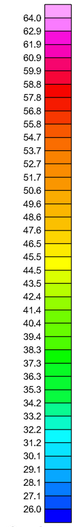
PM:
J.P.

Date:
5/22/04

Zapata Engineering



Explanation	
	GPO GRID 2 Outline
	GPO GRID 1 Outline
	Trench Endpoint
	Trench Path
	GRID 1 Seeded Items
4	GRID 1 Seeded Items ID



Scale 1:200

2.5 0 2.5 5 7.5 10 12.5 15

metres

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1 and GRID 2
EM31 Data
Quadrature Phase
EW Lines

Holloman AFB
New Mexico

Figure No.
12

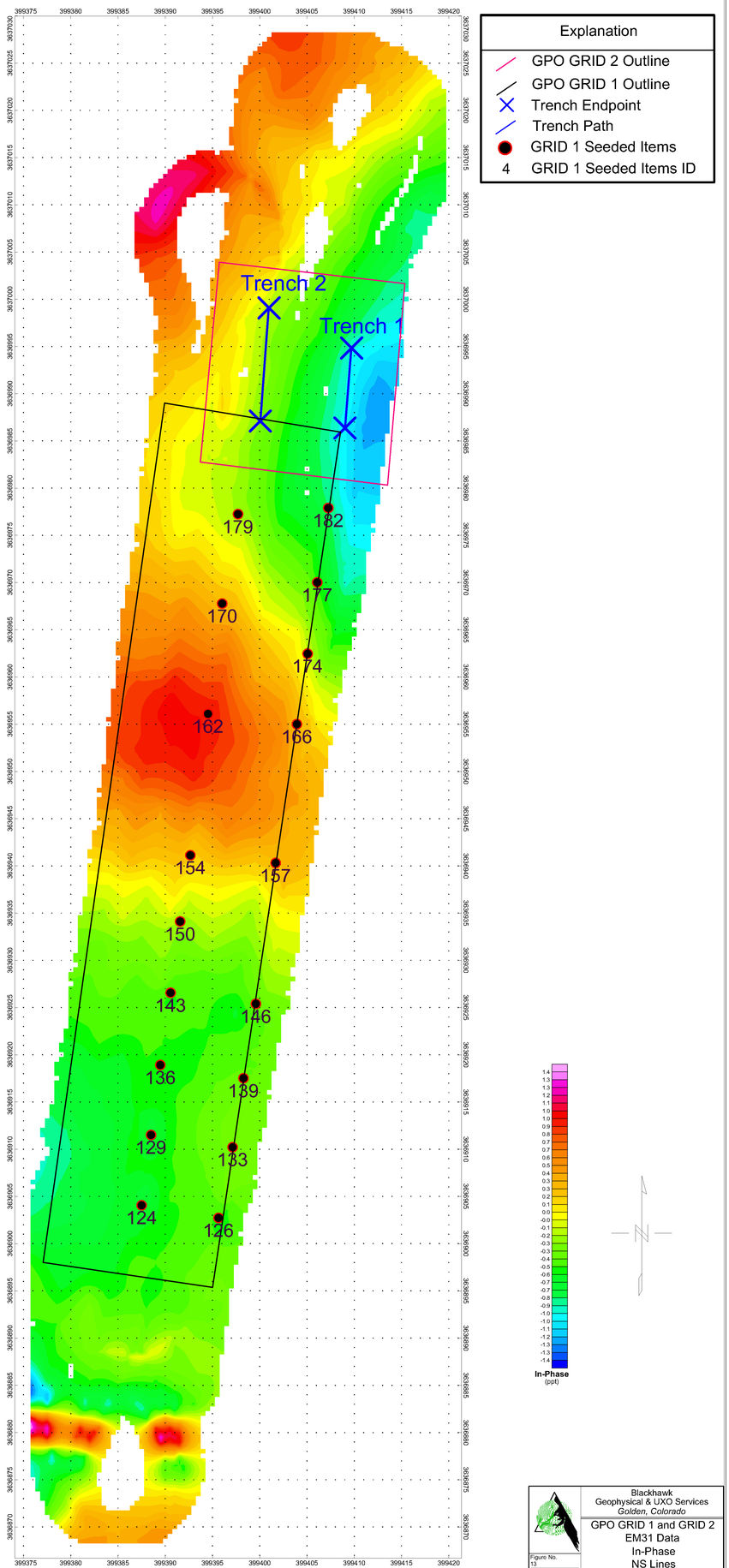
Project No.
0401-008

File
Figures

PM:
J.P.

Date:
5/21/04

Zapata Engineering



Explanation

- GPO GRID 2 Outline
- GPO GRID 1 Outline
- Trench Endpoint
- Trench Path
- GRID 1 Seeded Items
- 4 GRID 1 Seeded Items ID

Scale 1:200

2.5 0 2.5 5 7.5 10 12.5

METERS

NAD 83 UTM Zone 13N

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1 and GRID 2
EM31 Data
In-Phase
NS Lines

Holloman AFB
New Mexico

Figure No.
13

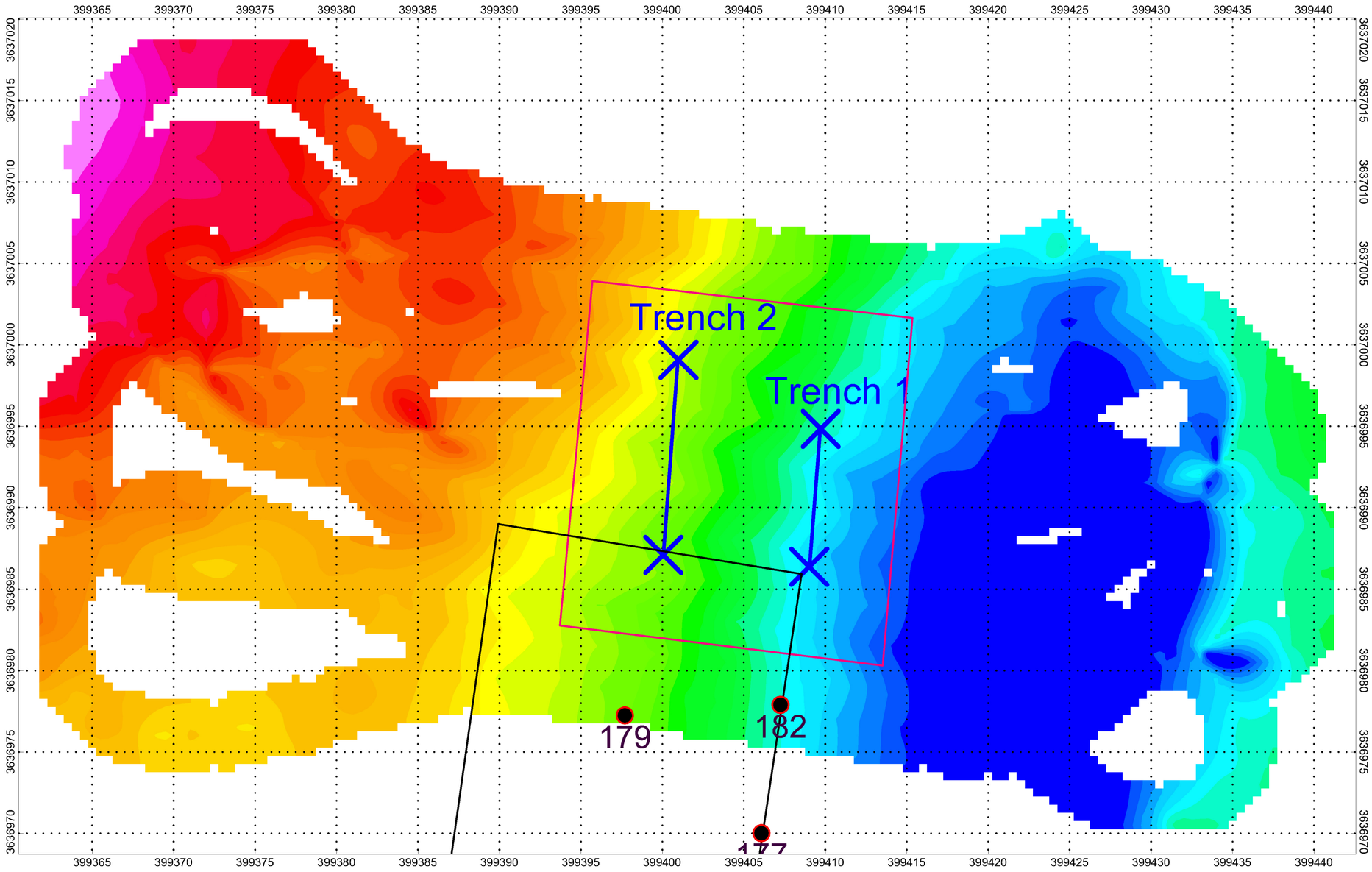
Project No.
0401-008

File:
Figures

PM:
LE

Date:
5/22/04

Zapata Engineering



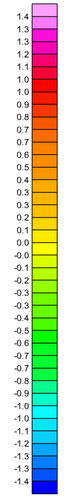
Scale 1:200

2.5 0 2.5 5 7.5 10 12.5 15

metres

NAD 83 UTM Zone 13N

Explanation	
	GPO GRID 2 Outline
	GPO GRID 1 Outline
	Trench Endpoint
	Trench Path
	GRID 1 Seeded Items
4	GRID 1 Seeded Items ID



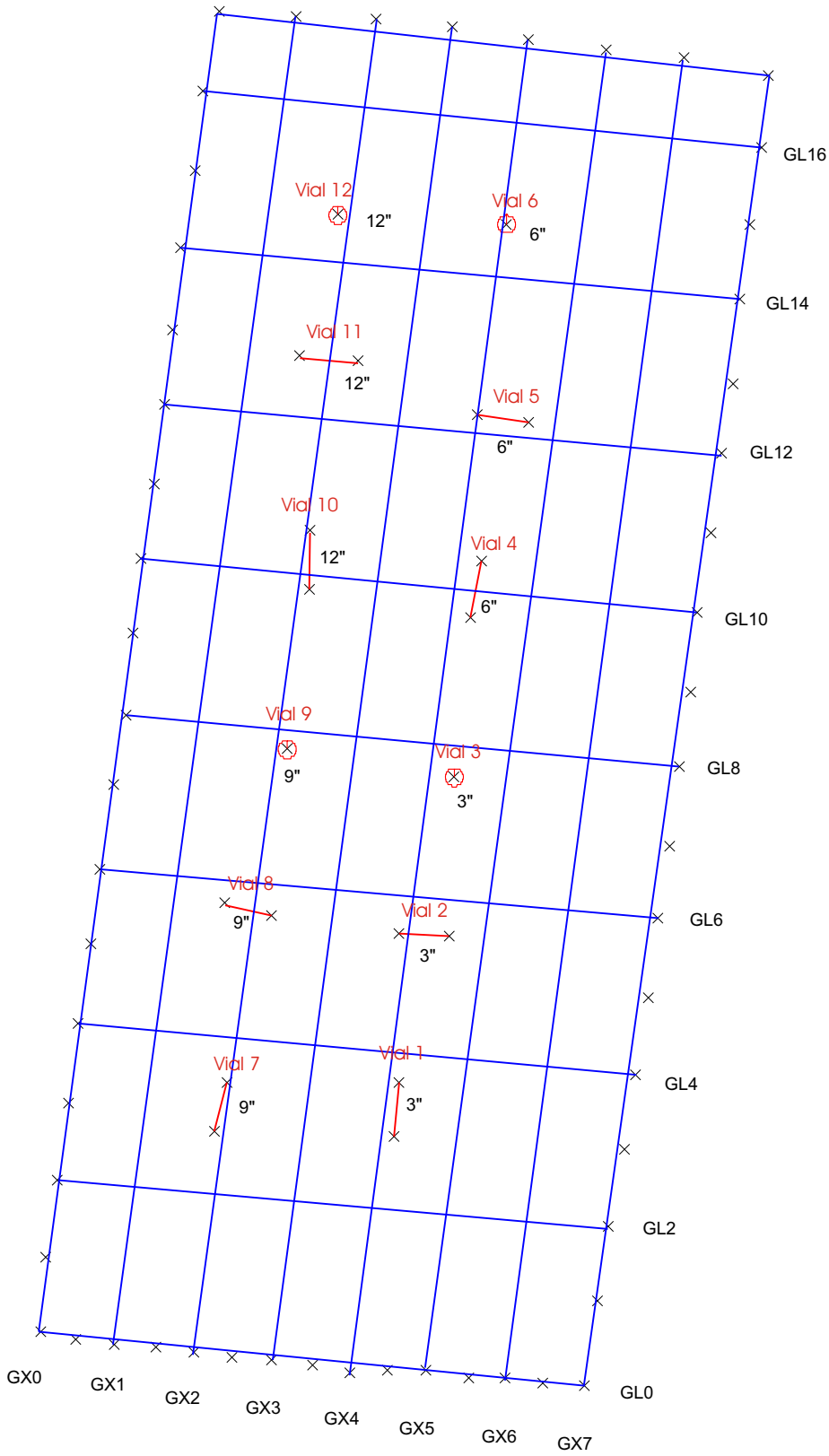
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1 and GRID 2
EM31 Data
In-Phase
EW Lines

Holloman AFB
New Mexico

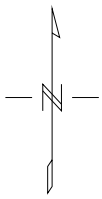
Figure No. *14*
Project No. *0401-008*
File *Figures*
PM: *J.P.*
Date: *5/22/04*

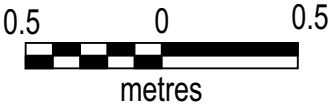
Zapata Engineering



Explanation

GL12	Line Name
x	Line Marker
6″	Depth to Seeded Item
	Seeded Item (North/South Orientation)
	Seeded Item (East/West Orientation)
	Seeded Item (Vertical Orientation)
Vial 1	Seeded Item ID





BLACKHAWK
Geophysical & UXO Services
a division of Blackhawk GeoServices

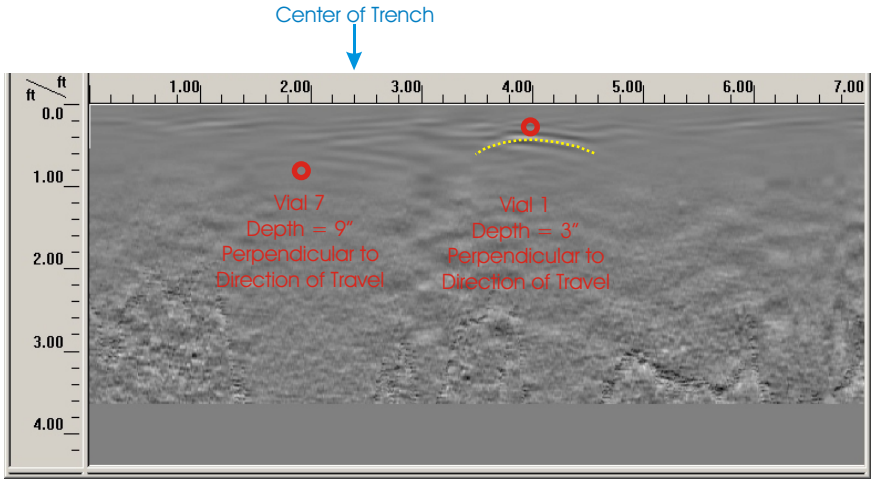
GPO GRID 3 Layout
900 MHz GPR Survey

Holloman Air Force Base
New Mexico

November 2004
Revision 1

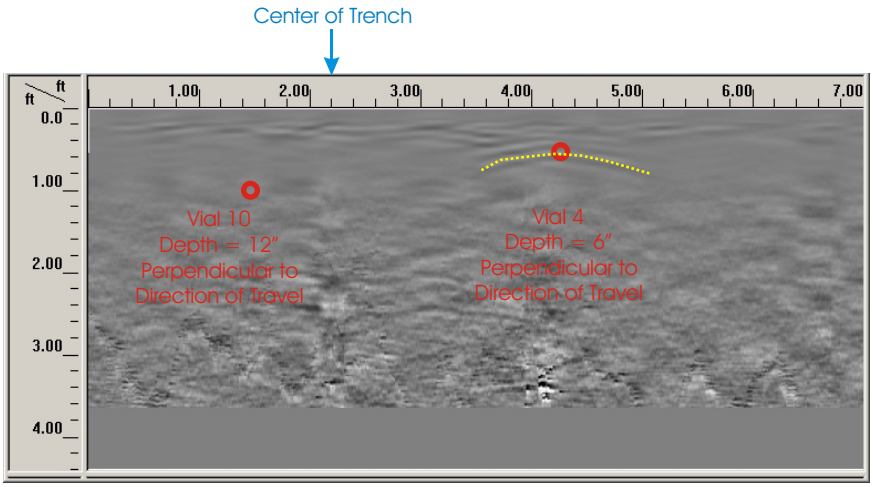
Figure 15	
Project No.	0401.008
File:	Figures
Date:	June 2004

Line 3.5



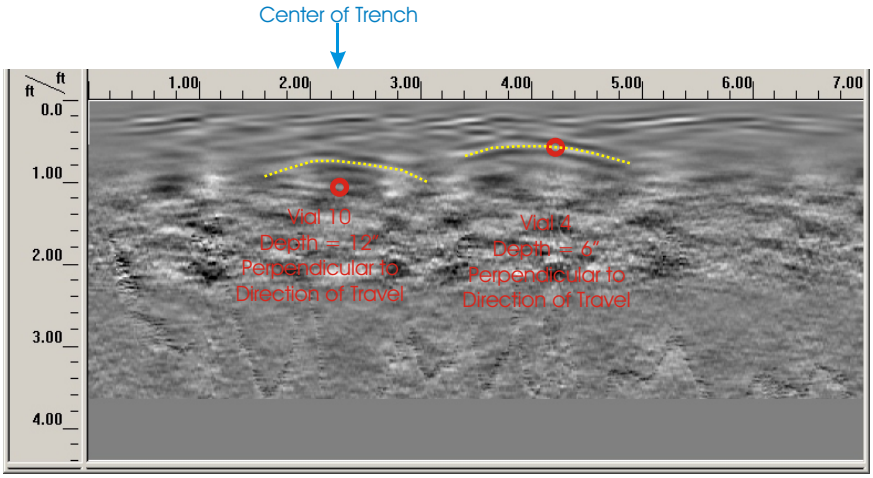
Explanation	
	Selected Anomaly
	Seeded Item
Vial 4	Seeded Item ID

Line 9.5



Note: The seeded items are located 1.5 meters to the north of line 9.5.

Line 10.0



Note: Location of the seeded items are approximate.

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GPO GRID 3
GPR Data - 900 MHz Antenna - SIR 10B
Anomalies on West to East Lines
Holloman Air Force Base
New Mexico

November 2004
Revision 1

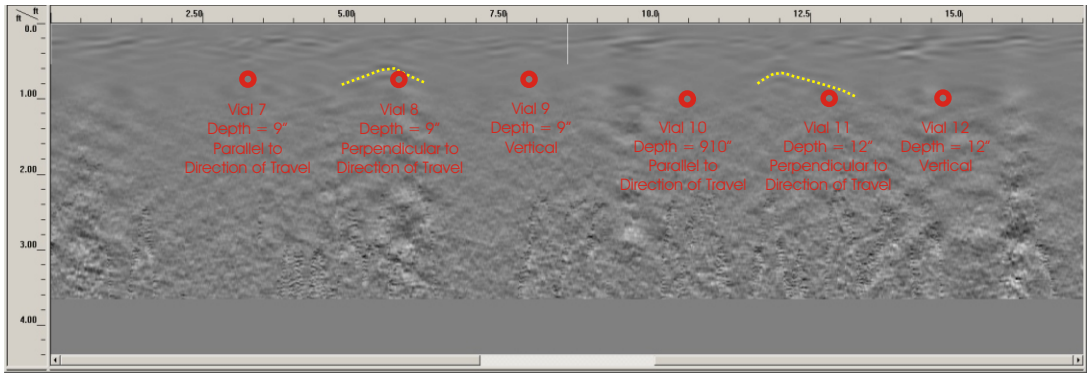
Figure 16

Project No. 0401.008

File: Figures

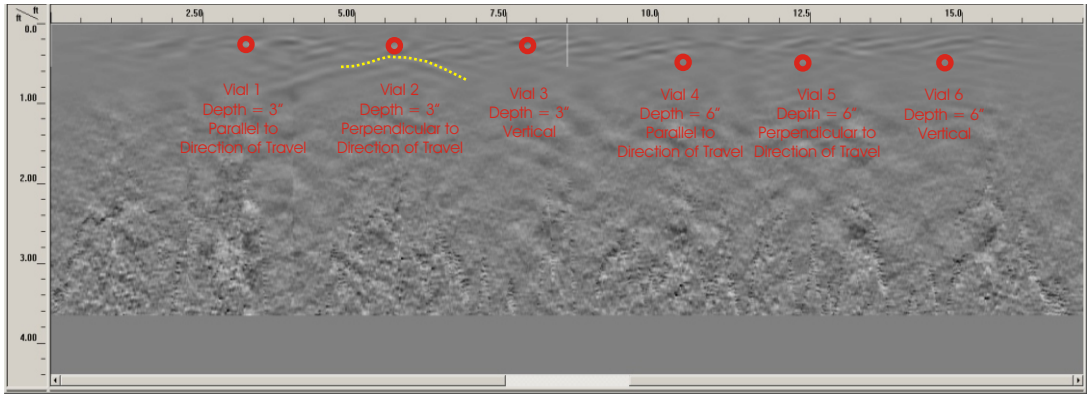
Date: June 2004

Line 1.5



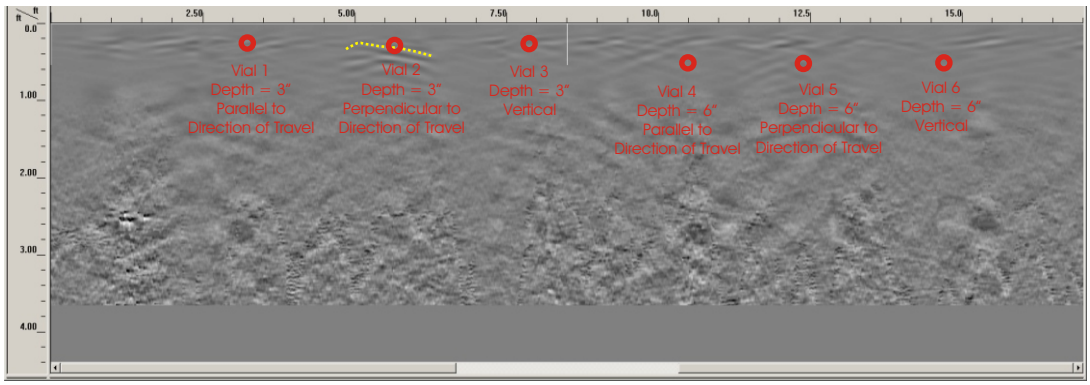
Explanation	
	Selected Anomaly
	Seeded Item
Vial 4	Seeded Item ID

Line 3.5



Note: The seeded items are located .5 to 1 meter to the west of line 3.5.

Line 4.0



Note: Location of the seeded items are approximate.
Note: Profiles run length of trench.

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

GPO GRID 3
GPR Data -900 MHz Antenna - SIR 10B
Anomalies on South to North Lines
Holloman Air Force Base
New Mexico

Figure 17

Project No. 0401.008

File: Figures

Date: June 2004

Attachment A

CD

FINAL GEOPHYSICAL PROVE-OUT LETTER REPORT

ORDNANCE AND EXPLOSIVE REMOVAL ACTION

HOLLOMAN AIR FORCE BASE ALAMOGORDO, NEW MEXICO

Contract: DACA87-00-D-0034
Task Order: 0019

Prepared for:

US Army Engineering and Support Center, Huntsville

by:

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Charlotte, NC 28204

October 2004

FINAL REPORT

GEOPHYSICAL PROVE OUT REPORT FOR HOLLOMAN AIR FORCE BASE UTILIZING MTADS EM61, MTADS MAG, EM31 AND GPR

Blackhawk GeoServices Project Number 0401.008

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October 2004

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Date	Original Paragraph/Page Number	Revised Paragraph/Page Number	Modification Rationale
11/4/2004	ZAPATAENGINEERING Cover Page	ZAPATAENGINEERING Cover Page	Task Order Correction
11/4/2004	Blackhawk Cover Page	Blackhawk Cover Page	Added Blackhawk Logo
11/4/2004	Figure 6	Figure 6 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 7	Figure 7 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 8	Figure 8 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 9	Figure 9 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 10	Figure 10 – Revision 1	Corrected Magnetic North
11/4/2004	Figure 15	Figure 15 – Revision 1	Added Scale Bar
11/4/2004	Figure 16	Figure 16 – Revision 1	Corrected Analysis

INSERTED PAGES

Date	Inserted Page Number(s)	Modification Rationale
11/4/2004	iv	Revision page added

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1.0 INTRODUCTION

This report describes the procedures and results of the Geophysical Prove Outs (GPO) conducted at the Holloman Air Force Base, Alamogordo, New Mexico. Four geophysical instruments were used to record data during the GPO investigation; the Multi-sensor Towed Array Detection System EM61 (MTADS EM61) electromagnetic system; the Multi-sensor Towed Array Detection System Magnetometer 822 Array (MTADS MAG); an EM31 Electromagnetic (EM) Ground Conductivity Meter, and the SIR 10B Ground Penetrating Radar (GPR) system. GPO data recording was conducted on May 17, May 20, May 21, and May 22. Blackhawk Geophysical and UXO Services (Blackhawk) personnel performed the work as detailed in the Geophysical Prove-Out Work Plan.

All data collection and field procedures were performed in accordance with the scope of work and the Army Corps of Engineers DID MR-005-01. A digital copy of the GPO report, all raw and processed data, geophysical maps, seeded item coordinates, selected target coordinates, and control and survey coordinates are included in Attachment A.

2.0 GROUND PROVE OUT DESIGN AND PLAN

To meet the objectives of the work plan, three different GPO areas were prepared. Selection and construction of the prove-out areas were based upon the technical and site specific considerations. GPO GRID 1 (GRID 1) was approximately 18 meters by 91 meters (60 feet by 300 feet). The corner points of this grid are listed in Table 1. An additional GPO grid, GRID 2, was also constructed and overlapped the northern edge of GRID 1. Two trenches were constructed in GRID 2 that were approximately one to two meters in width. GRID 2 in its entirety was approximately 19.8 meters by 21.3 meters (65 feet by 70 feet). The corner points of GRID 2 are listed in Table 2. A final grid, GRID 3, which was approximately 2.1 meters by 5.2 meters (7 feet by 17 feet), was constructed over Trench 1 and within GRID 2. Glass vials were buried in this area. The corner points of GRID 3 are listed in Table 3.

Easting (m)	Northing (m)	ID
399395.00	3636895.39	SE Corner
399377.06	3636898.00	SW Corner
399389.96	3636989.00	NW Corner
399408.57	3636985.94	NE Corner
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 1. GRID 1 CORNER POINTS COORDINATES.

Easting (m)	Northing (m)	ID
399413.51	3636980.36	SE Corner
399393.76	3636982.79	SW Corner
399415.35	3637001.60	NE Corner
399395.76	3637003.91	NW Corner
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 2. GRID 2 CORNER POINTS COORDINATES.

Easting (m)	Northing (m)	ID
399411.09	3636992.04	NE Corner
399408.95	3636992.29	NW Corner
399410.37	3636986.94	SE Corner
399408.27	3636987.12	SW Corner
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 3. GRID 3 CORNER POINTS COORDINATES.

GRID 1 was constructed on the site and 18 items were seeded. Table 4 describes the seeded items located in GRID 1. The seeded items vary in size, depth below the ground surface, and orientation. Photographs of the seeded items are located in Attachment B. Data were collected with the MTADS EM61 and MTADS MAG over GRID 1 in order to test the ability of the instrument to locate isolated metallic seeded items. GRID 1 data were also collected with the EM31 ground conductivity meter.

Target_ID	X (UTMm)	Y (UTMm)	Z (UTMm)	Line	Distance (ft) to the North	Description	Orientation Relative to Path	Depth to the top (meters)	Depth to the top (inches)
124	399387.5	3636904.1	1232.405	30	25	SC#377	Vertical	0.3	12
126	399395.63	3636902.7	1232.418	60	25	RC1	Vertical	0.3	12
129	399388.5	3636911.5	1232.442	30	50	SC#385	Perpendicular	0.3	12
133	399397.13	3636910.2	1232.313	60	50	RC2	Perpendicular	0.3	12
136	399389.48	3636918.9	1232.393	30	75	B#389	Vertical	0.41	16
139	399398.28	3636917.5	1232.385	60	75	B#388	Parallel	0.41	16
143	399390.56	3636926.6	1232.009	30	100				
146	399399.59	3636925.4	1232.359	60	100	B#387	Perpendicular	0.41	16
150	399391.57	3636934.1	1231.852	30	125	B#390	Parallel	0.84	33
154	399392.66	3636941.1	1231.694	30	150	B#383	Vertical	0.91	36
157	399401.68	3636940.3	1231.646	60	150	B#391	Perpendicular	0.84	33
162	399394.53	3636956.1	1231.268	30	200	SC#378	Parallel	1.19	47
166	399403.93	3636955	1231.482	60	200	SC#382	Perpendicular	0.91	36
170	399396.02	3636967.8	1230.909	30	237	SC#381	Parallel	1.52	60
174	399405.07	3636962.5	1231.213	60	225	SC#386	Perpendicular	1.22	48
177	399406.08	3636970	1231.204	60	250	SC#379	Vertical	1.22	48
179	399397.69	3636977.3	1230.904	30	270	SC#380	Vertical	1.52	60
182	399407.25	3636977.9	1230.876	60	275	SC#384	Parallel	1.52	60
Coordinates are listed in NAD 83 UTM Zone 13N									
RC = REAL CAN SC = SIMULATED CAN B = BOMBLET									

TABLE 4. DESCRIPTION OF GRID 1 SEED ITEMS.

EM31 data were also collected over GRID 2 in order to test the ability of the instrument to locate ground disturbances (trenches) as well as to provide information concerning the background soil conductivity and magnetic susceptibility at the site. The endpoints of the trenches were known and are listed in Table 5.

Easting	Northing	ID
399409.02	3636986.37	Trench1 South
399409.72	3636994.84	Trench1 North
399400.99	3636999.08	Trench2 North
399400.06	3636987.10	Trench2 South
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 5. TRENCH ENDPOINTS LOCATIONS.

GPR data were initially collected over GRID 2, or the trenches, to test its ability to locate areas of ground disturbances. GRID 3 was then constructed and glass vials were buried in Trench 1. The coordinates of the glass vials are listed in Table 6. The points correspond to the endpoints of the vials. GPR data were collected over GRID 3.

Target_ID	X (UTMm)	Y (UTMm)	Z (UTMm)	Depth (inches)	Depth (meters)	Description	Orientation
1VIAL-1	399409.63	3636987.913	1232.218	3	0.076	Glass Vial	North-South
1VIAL-2	399409.65	3636988.123	1232.231				
2VIAL-1	399409.65	3636988.704	1232.222	3	0.076	Glass Vial	East-West
2VIAL-2	399409.85	3636988.688	1232.247				
3VIAL-1	399409.87	3636989.313	1232.069	3	0.076	Glass Vial	Vertical
4VIAL-1	399409.93	3636989.935	1232.131	6	0.15	Glass Vial	North-South
4VIAL-2	399409.97	3636990.149	1232.157				
5VIAL-1	399409.96	3636990.722	1232.136	6	0.15	Glass Vial	East-West
5VIAL-2	399410.16	3636990.69	1232.137				
6VIAL-1	399410.07	3636991.463	1231.984	6	0.15	Glass Vial	Vertical
7VIAL-1	399408.93	3636987.933	1232.068	9	0.23	Glass Vial	North-South
7VIAL-2	399408.98	3636988.124	1232.079				
8VIAL-1	399408.97	3636988.815	1232.036	9	0.23	Glass Vial	East-West
8VIAL-2	399409.16	3636988.77	1232.043				
9VIAL-1	399409.22	3636989.419	1231.911	9	0.23	Glass Vial	Vertical
10VIAL-1	399409.3	3636990.043	1231.939	12	0.3	Glass Vial	North-South
10VIAL-2	399409.31	3636990.266	1231.918				
11VIAL-1	399409.27	3636990.946	1232.026	12	0.3	Glass Vial	East-West
11VIAL-2	399409.49	3636990.926	1231.97				
12VIAL-1	399409.42	3636991.496	1231.899	12	0.3	Glass Vial	Vertical
Coordinates are listed in NAD 83 UTM Zone 13N							

TABLE 6. DESCRIPTION OF GRID 3 SEED ITEMS.

Figure 1 is an As-Built map displaying the location of the three grids, the trenches, and the buried seed items in GRID 1. Figure 2 is an As-Built map of GRID 3 at a larger scale to enhance details of the buried vials.

3.0 GEOPHYSICAL EQUIPMENT

3.1 ELECTROMAGNETIC SYSTEM

3.1.1 The MTADS EM61 is a high-sensitivity time domain electromagnetic (TDEM) system that is able to detect both ferrous (steel) and non-ferrous (aluminum, copper, brass, etc.) metals. The MTADS EM61 system generates an electromagnetic (EM) pulse in the transmitter coil, causing eddy currents to flow both within the ground and within metal objects. When the EM pulse is terminated, the eddy currents decay, thus producing a changing magnetic field, called a secondary magnetic field. The eddy currents, also called secondary currents, in metal objects decay more slowly than those in the ground and produce measurable anomalies. This system is designed so that a low-level and/or constant signal is received when no metal is present. When metal is present, an increased secondary magnetic field is recorded. This signal is generally at its maximum level when the coils are located directly over the object. This results in a "bulls-eye" type anomaly for isolated metal objects and simplifies data analysis.

The MTADS EM61 system consists of three one-meter by one-meter (3.28 feet x 3.28 feet) coils, designated by left, right, and center. The left and right coils are placed adjacent to one another and the center coil is centered on top of the midpoint between the right and left coil. This results in a sampling width of two meters (6.28 feet). A Mobile Instrument Platform (MIP) towed the MTADS EM61 system.

3.1.2 Sensor positioning on the grid was recorded with a Trimble 4700 Global Positioning System (GPS) Real Time Kinematic (RTK) system. A base station and rover were used to collect positioning information for both of the MTADS systems. The coordinates for the base station used for the entire GPO are listed in Table 7. The GPS-RTK system provides real-time positioning at five readings per second (5 Hz) providing spatial coordinates with an error of about 5 cm (0.16 ft) under ideal conditions. However, because of the dimensions of the MTADS EM61 coil, the accuracy with which the sources of anomalies can be positioned is about 30 cm (0.98 ft).

Easting	Northing	ID	Latitude	Longitude
399529.840	3637688.790	CP2	32.52.21.82	-106.04.26.22
Note: Coordinates are listed in NAD 83 UTM Zone 13			Note: Coordinates are listed in WGS 84 coordinates.	

TABLE 7. BASE STATION COORDINATES.

3.1.3 MTADS EM61 data were logged using an industrial PC running MagLog logging software written by Geometrics, Inc. at a rate of 16 samples per second. Data were recorded at the normal driving speed of 4.8 to 8.1 kilometers per hour (3 to 5 miles per hour) resulting in a data station interval of 0.08 to 0.14 meters (0.28 to 0.45 feet) along the survey line. The line spacing was nominally two meters (6.56 feet) or less thus ensuring 100% surface coverage.

3.2 MAGNETOMETER SYSTEM

3.2.1 The MTADS MAG Cesium-vapor magnetometer array system is able to detect ferrous (i.e. iron-containing) metals. Magnetic surveys measure the magnitude of the total magnetic field and are expressed in units of nano Tesla (nT). The total magnetic field is the sum of the earth's magnetic field and any perturbations in this field caused by local ferromagnetic objects along with the magnetic field of geologic materials. A magnetic anomaly usually contains both a magnetic high and an associated magnetic low (dipole). This anomaly occurs because the earth's magnetic field induces positive (north) poles as it enters a magnetic body and negative (south) poles as it leaves the body.

The MTADS MAG consists of eight Geometrics, Inc. model 822 Cesium vapor magnetometers in a linear array aligned normal to the direction of travel with a sensor separation of 0.25 meter (0.082 feet). The swath width of MTADS MAG is two meters (6.56 feet). A GeoMetrics G858 base station magnetometer was set up to the south of the GPO grid and was maintained at that location during the subsequent grid surveys. The base station recorded data at two readings per second (2 Hz). The base station's coordinates are listed in Table 8. The MIP towed the MTADS MAG system.

Easting	Northing	ID
399364.33	3636807.33	CP2
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 8. MAG BASE STATION COORDINATES.

3.2.2 Positioning for the MTADS MAG was achieved using the GPS system (refer to section 3.1.2 for details).

3.2.3 The magnetometer data were recorded using the program MagLog at a rate of 50 samples per second. Data recorded at the normal driving pace of 4.8 to 8.1 kilometers per hour (3-5 miles per hour) acquisition rate results in a data station interval of 0.027 to 0.045 meters (0.088 feet to 0.15 feet) along the survey line. The line spacing was nominally two meters (6.56 feet) or less to ensure 100% surface coverage.

3.3 EM GROUND CONDUCTIVITY SYSTEM

3.3.1 The EM31 is a frequency domain electromagnetic induction instrument built by Geonics Ltd. The transmitter consists of a coil through which oscillating electrical current is passed. The current generates an oscillating electromagnetic (EM) field that penetrates the ground. This field is the primary EM field. This EM field induces secondary oscillating currents in conductive material in the ground. Greater ground conductivity results in stronger secondary currents. The oscillating secondary currents generate secondary oscillating EM fields that are detected by the receiver of the instrument. The EM31 system measures the quadrature-phase and in-phase component of the induced secondary magnetic field. The quadrature-phase, which is sensitive to the bulk electrical properties of the near surface material, is linearly related to the ground conductivity at low induction numbers. The in-phase component of the received signal is often

used to detect large metallic objects and pipes. The EM31 is used primarily for mapping lateral variations in the bulk conductivity to an effective depth of approximately 5 meters (16 feet).

The EM31 can be used in two modes, one called the vertical dipole mode and the other the horizontal dipole mode. In the vertical dipole mode, the readings are insensitive to near surface variations in the ground conductivity but have the greatest investigation depth, whereas in the horizontal dipole mode, the readings are more sensitive to near surface variations in the ground conductivity but have a lower depth of investigation. Data were collected in the vertical dipole mode to ensure that the measured conductivity had the greatest depth of investigation and minimal influence by the near surface conductivity of the ground. The MIP towed the EM31 system.

3.3.2 Positioning for the EM31 was achieved using the GPS system (refer to section 2.1.2 for details). GPS data were recorded simultaneously with the EM31 data on a Juniper Systems Allegro data logger at a rate of 5 Hz. The GPS data were merged with the EM31 data during processing. The line spacing is for the EM31 survey was approximately 3.05 meters (10 feet).

3.3.3 A Polycorder 720 measured the data at a rate of five samples per second (5 Hz). Data recorded at the normal driving pace of 4.8 to 8.1 kilometers per hour (3-5 miles per hour) acquisition rate results in a data station interval of 0.25 to 0.45 meters (0.88 feet to 1.46 feet) along the survey line.

3.4 GROUND PENETRATING RADAR SYSTEM

3.4.1 A Geophysical Survey Systems, Inc. (GSSI) Subsurface Interface Radar (SIR) 10B control unit was used to acquire GPR data. According to the work plan, only two antennae were to be tested at the Holloman site. Per the request of the Army Corps of Engineers, Blackhawk tested an additional antenna at the Holloman site. The three antennae tested were a 200 MHz, 500 MHz, and 900 MHz center frequency antennae. As a general rule, higher frequency antennae provide greater resolution, but provide less depth of penetration while lower frequency antennae provide greater depth of penetration, but less resolution. The GPR antenna consists of a transmitter antenna and receiver antenna contained in a single enclosure. Electromagnetic energy is transmitted into the ground by the transmitter antenna. The receiver antenna detects energy that is reflected by a layer or an anomaly in the subsurface. The radar controller records the two-way travel time of the reflected energy. The two-way travel time of the reflected energy is a function of the depth of the reflection and the physical properties of the overlying material (i.e. dielectric constant). Due to the fact that the work plan only called for the testing of two antennae and the 500 MHz antenna produced poorer data than the other two antennae, only the results of the 200 MHz and the 900 MHz are discussed in this report. The results of the 500 MHz antenna were inconclusive and added no benefit.

Data were collected over the trench GPO grid with the 200 MHz antenna in order to test the ability of the antenna to locate areas of disturbed ground. Data were collected over a grid containing known seeded vials with the 900 MHz antenna in order to test the ability of the antenna to locate isolated targets to a depth of about one third of a meter.

3.4.2 Positioning was accomplished by setting up a local grid with fiberglass tapes. The locations of the corners of the grids were obtained with the GPS system. Each antenna was manually pulled across the survey grids.

3.4.3 The 200 MHz antenna GPR data were collected in "wheel mode". In this mode, electronic signals are triggered by the movement of the wheel allowing accurate positioning of the data. Data were recorded at 39.04 scans per meter (11.9 scans per foot) and a mark was placed in the data every 1.54 meters (five feet). Data were recorded for a time range of 200 nanoseconds. The line spacing used in conjunction with this antenna was 1.5 meters (five feet). The lines recorded with the 200 MHz antenna were aligned west to east and recorded in unidirectional fashion. GPS positions were recorded at the beginning and end of each profile line. The data recorded with the 900 MHz antenna was collected in "auto mode". In this mode, the user places fiducial marks in the data and uses these marks to correctly position the data. The line spacing used with this antenna was 15 cm (.5 feet). Data were recorded in a grid with north-south profiles and east-west profiles. Data were recorded in a unidirectional fashion for each of the profile lines in the grid (west to east and south to north).

4.0 QUALITY CONTROL TESTS

The GPO was used to determine the ability of the MTADS EM61, EM31, MTADS MAG and GPR systems to detect the items. QA/QC equipment tests were performed in accordance with the Geophysical Prove-out Work Plan. To ensure high-quality geophysical data, ZAPATAENGINEERING's and Blackhawk's Senior Geophysicists evaluated the setup of each instrument and monitored the data collection and processing steps.

4.1 EQUIPMENT WARM-UP

Equipment warm-up time was approximately fifteen minutes for each array.

4.2 RELATIVE SENSORS POSITIONS

All sensor offsets were measured in relation to the GPS antenna. These offsets were used to determine the location of each sensor during data processing.

4.3 PERSONNEL TEST

This test ascertains that the operator is not carrying any metal objects that might interfere with the instrument readings. This test was performed under the supervision of Blackhawk's Senior Geophysicist. The requirements of this test were met.

4.4 STATIC/STANDARD TESTS

After being given sufficient time to warm up, during which any instrument drift was observed, a static/standard test was conducted. The static/standard test consisted of a minimum of a nine-minute record; three minutes background, three minutes with standard, and three minutes background. This test was performed each day, both prior to any data recording and after all of the data had been recorded for that day. After the initial three minute stationary test, a metal standard board was placed in exactly the same position relative to the MTADS EM61 and MTADS MAG sensors and data were collected for three minutes. Instrument readings of the standard object, called the standard test, were checked to determine that they were within +/- 20% of the average of all readings taken. After the standard test, an additional stationary test of three minutes was performed in order to check the instrument for repeatability. All three tests were performed with the MTADS EM61 and the MTADS MAG system, whereas only the initial static test was performed with the EM31. The static test was performed at the same location every day. This location is listed in Table 9. Profiles showing the static and standard tests are located in Attachment C (MTADS EM61 Profiles 1–16, MTADS MAG Profiles 1-8, and EM31 Profiles 1-4). The responses of the MTADS MAG and EM31 instruments during static and standard tests were within tolerance limits. The responses of the MTADS EM61 instruments during static and standard tests were not within tolerance limits. A record of the MTADS EM61 response is located in Attachment D, QC Spreadsheets.

Easting	Northing	ID
399409.522	3636909.274	STATIC PT
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 9. STATIC POINT COORDINATES.

The static tests performed during the GPO survey at Holloman showed periodic noise in the data and the tests were not within tolerance. It was first hypothesized that RADAR or other electronic interference from the Air Force Base caused this noise. The GPO grid data collected with this noise was acceptable and did not show any periodic noise. The noise was mostly filtered out with the demedian filter because the period of the periodic noise was greater than the demedian window. To test the ambient electronic noise theory, the equipment was taken to the mountains east of Holloman and tested at the end of the GPO. The noise was still present in the static test. The equipment was taken back to Blackhawk's Golden, CO office for further investigation and repair. The problem was traced to the jumper boxes that synchronize data recording between the three coils. The problem was remedied and the equipment was then tested in Golden and the noise was no longer present. The equipment was returned to Holloman A.F.B. and retested. At this point, the static test showed no signs of periodic noise. EM61 Profiles 38 – 41 display the AM and PM static tests recorded on June 8, 2004. These static tests were within tolerance limits.

The GPO grid data collected with this noise was acceptable and did not show any periodic noise.

4.5 SENSOR HEIGHT OPTIMIZATION TEST

It was determined that the MTADS MAG instrument lower sensor settings of 25 cm would not be suitable due to tall vegetation. Thus, the data were collected with a sensor height of 40 cm.

4.6 SIX LINE TEST

The Six Line Test consisted of six passes of the geophysical instruments over a 50-foot line. The first two passes were performed at normal driving speed with no metallic item placed on the line. The next two passes were conducted at normal driving speed with a metal object (seeded item) placed at the 25-foot mark. The coordinates of the seeded item are listed in Table 10. To simulate data collection downhill where the instrument operator will be driving faster than normal, the fifth pass was performed while driving at a fast pace with the metal object placed at the 25-foot mark. The final pass was performed while driving at a slow pace with the metal object placed at the 25-foot mark, thus simulating data collection uphill where the instrument operator might be driving slower than normal. These tests were performed using the MTADS EM61 and the MTADS MAG. Profiles showing the data are located in Attachment C (MTADS EM61 Profiles 17–22 and MTADS MAG 9-14). The response of the instruments during the six line tests was within tolerance limits. A record of the MTADS EM61 response is located in Attachment D.

Easting	Northing	ID
399414.439	3636943.827	6 Line Test PT
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 10. SIX LINE TEST SEEDED ITEM COORDINATES.

4.7 LATENCY TEST

Prior to and after data collection, the instruments were driven over the trailer ball (2 5/16" uniball) in order to determine the positional accuracy and data repeatability of the instrumentation. The trailer ball's location is listed in Table 11. The latency test was performed driving over the trailer ball in two opposing directions. This test was performed using the MTADS EM61 and the MTADS MAG. However, a railroad tie, located southeast of the GPO grid was used as the latency point for the EM31. During the GPO post-seed data processing, the latency value of +25 ms was used for the MTADS EM61 system, -25 ms for MTADS MAG system, and 800ms for EM31 system. Positional accuracy and data repeatability of the systems were within acceptable limits. MTADS EM61 Profiles 23-34, MTADS MAG Profiles 15-22, and EM31 Profiles 5-8 show data collected during the Latency Test. A record of the MTADS EM61 response during the latency test is located in Attachment D.

Easting	Northing	ID
399414.440	3636943.830	Latency PT
Note: Coordinates are listed in NAD 83 UTM Zone 13		

TABLE 11. LATENCY TEST SEEDED ITEM COORDINATES.

4.8 OCTANT TEST

An Octant Test was performed with the MTADS MAG system to determine heading effects. This test was accomplished by collecting a total of eight lines of data in the directions N-S, S-N, NE-SW, SW-NE, E-W, W-E, SE-NW, and NW-SE in a clean area. MTADS MAG Profiles 23-30 show the results of the octant test. Heading effects were less than +/- 1 nT. These values were not removed from the data due to their low amplitude.

4.9 REPEAT LINE TEST

After Post-Seed data were collected, a repeat line of data was recorded to document positional and geophysical data repeatability. The first line of the GPO was used for the Repeat Line Test. MTADS EM61 Profiles 35 through 36 show the data from the Repeat Line Test. The positional and geophysical data repeatability were within acceptable limits.

4.10 CABLE SHAKE TEST

The cable shake/vibration test is performed to verify that there are no electrical problems (breaks, short circuits) in the cables. Prior to data collection, the cables associated with each instrument (MTADS EM61 and MTADS MAG) are manually shaken. All shake tests produced results that were within acceptable limits and no faulty cables were discovered. Cable shake profiles, MTADS EM61 – Profile 37 and MTADS MAG Profile 31, are shown in Attachment C.

4.11 PRE-SEED GPO DATA

The Pre-Seed data is displayed on the following Figures:

Figure 3	GPO GRID 1 Background – MTADS EM61
Figure 7	GPO GRID 1 Background – MTADS MAG

4.12 POST-SEED GPO DATA

The post seed data is displayed on the following Figures:

Figure 4	GPO GRID 1Post Seed – MTADS EM61
Figure 5	GPO GRID 1Post Seed With Target Selections – MTADS EM61
Figure 6	GPO GRID 1 Post Seed With Target Selections Compared to Seeded Items – MTADS EM61
Figure 8	GPO GRID 1 Post Seed – MTADS MAG
Figure 9	GPO GRID 1 Post Seed With Target Selections – MTADS MAG
Figure 10	GPO GRID 1 Post Seed With Target Selections Compared to Seeded Items – MTADS MAG
Figure 11	GPO GRID 1 and GRID 2 North South – EM31 Quadrature Phase
Figure 12	GPO GRID 2 East West – EM31 Quadrature Phase
Figure 13	GPO GRID 1 and GRID 2 North South – EM31 In-Phase
Figure 14	GPO GRID 2 East West – EM31 In-Phase
Figure 16	900 MHz GPR Anomalies – GRID 3 East to West Survey Lines
Figure 17	900 MHz GPR Anomalies – GRID 3 South to North Survey Lines

5.0 DATA PROCESSING

5.1 ELECTROMAGNETIC SYSTEM (MTADS EM61)

All data taken in the field were processed on the same day as it was recorded and checked for data quality and completeness using a laptop computer. The MTADS Data Analysis Software (DAS) program was used to process the data, check the data for quality, pick targets and generate files containing the target locations (xyz files). The MTADS DAS was used to pick the targets, which were later edited. Some targets were removed but most were left in case blind seed items existed in the GPO grid. Each of the targets picked by the MTADS DAS were evaluated as to the validity and position as reported in the GPO seeded items list. Target location files (xyz files) of the data were sent to Blackhawk GeoServices main office in Golden for QC analysis. The files were also uploaded to the ZAPATAENGINEERING web site for access by ZAPATAENGINEERING'S personnel and authorized users.

Data processing steps in the MTADS DAS include, but were not limited to:

- Reviewing the field data sheets and log forms for completeness;
- Reviewing the static instrument standardization files to verify repeatability of amplitude response;
- Applying an additional instrument drift correction;
- Monitoring the data for gaps or incomplete coverage;
- Monitoring the survey line separation;
- Visually comparing the target anomaly selections to the DGM anomalies generated by the known seeded items;
- Monitoring and applying lag corrections when necessary;
- Tracking data processing steps to ensure all data are processed in the same manner;
- Producing an output of the final data in *.xyz (ASCII) format;
- Converting the spatial coordinates to NAD83 UTM coordinates;
- Generating target lists with location and peak value.

The XYZ files were then imported into Oasis montaj. Profiles of the QC Tests were created and were exported into Corel Draw where final profile figures were created. All profiles are displayed in Attachment C. The Bottom Channel Filtered Data were gridded with a 0.2m grid cell size and a 1.0m blanking distance. All of the final maps were created in Oasis montaj.

5.2 MAGNETIC SYSTEM (MTADS MAG)

The magnetic data was processed in the same manner as the MTADS EM61 data. The data were first processed in the MTADS DAS, where processing steps included, but were not limited to:

- Reviewing the field data sheets and log forms for completeness;
- Reviewing the static instrument standardization files to verify repeatability of amplitude response;
- Applying an additional instrument drift correction;
- Applying a diurnal correction;
- Monitoring the data for gaps or incomplete coverage;

- Monitoring the survey line separation;
- Visually comparing the target anomaly selections to the DGM anomalies generated by the known seeded items;
- Monitoring and applying the heading and lag corrections when necessary;
- Tracking the data processing steps to ensure all data are processed in the same manner;
- Producing an output of the final data in *.xyz (ASCII) format;
- Converting the coordinates to NAD83 UTM coordinates;
- Producing target lists with location and peak value.

The XYZ files were then imported into Oasis montaj. Profiles of the QC Tests were created and exported into Corel Draw where final profile figures were created. All profiles are displayed in Attachment C. The eight sensor data were gridded with a 0.2m grid cell size and a 1.0 m blanking distance. All final maps were created in Oasis montaj.

5.3 EM GROUND CONDUCTIVITY (EM31)

The electrical conductivity data were downloaded from the data logger and imported into the Dat 31W software. The EM31 data and the GPS data were merged and a xyz file was generated from this program.

The xyz file was then imported into Oasis montaj and a lag correction applied to the data. Profiles of the QC Tests were created and then exported into Corel Draw where final profile figures were created. All profiles are displayed in Attachment C. The data were gridded with a 0.5 m grid cell size and a 2.0 m blanking distance. All of the final maps were created in Oasis montaj.

5.4 GROUND PENETRATING RADAR SYSTEM (SIR 10B)

The GPR data, which were stored in the SIR 10B, were downloaded to a laptop computer for on-site review and editing. The 200 and 900 MHz data were then imported into the GSSI program called RADAN 5.0 where corrections for travel time, distance, and display gain were made. A background removal filter was applied to the 900MHz data to remove banding (”ringing”) in the data.

The GPR processing steps used included, but were not limited to:

- Positional and distance corrections;
- Time zero adjustment to obtain accurate depth estimations, and;
- A background removal to remove flat lying banding in the data where individual targets may be encountered.

Accurate depth positioning of known items in the 900 MHz data required a dielectric constant between 20 and 30. Profiles generated in Radan were exported as screen captures and imported into Corel Draw for presentation purposes. All the GPR data are displayed in Attachment C. The GPR profiles are displayed using English units because English units were used during data collection.

6.0 ANALYSIS AND RECOMMENDATIONS

6.1 ELECTROMAGNETIC SYSTEM

A total of 39 targets were selected from the MTADS EM61 data collected over GRID 1. The targets were selected before the locations of the grid corners were known; thus, some of the targets are outside the grid. The 39 targets selected by Blackhawk along with the known seeded items are shown superimposed on the data in Figure 5. Table 12 lists the targets selected by Blackhawk. The MTADS EM61 system located all of the seeded items within the GPO area that were known to the Blackhawk personnel. Table 13 compares the targets selected by Blackhawk to the known seeded items. For the following discussion please refer to Figure 6. One seeded item was located within a 1.5-meter radius (4.9 feet) from its true location. A total of six seeded items were found within a one-meter radius (3.3 feet), and the remaining 11 seeded items were found within a half-meter radius (1.6 feet). Due to the EM61 ability to accurately locate the seeded items, the MTADS EM61 system will be used for additional geophysical investigations at Holloman.

Target_ID	Easting (m)	Northing (m)	Magnitude (mV)	Target_ID	Easting (m)	Northing (m)	Magnitude (mV)
1	399380.34	3636897.23	7.78	21	399398.76	3636931.43	6.38
2	399380.14	3636895.63	7.12	22	399391.35	3636934.63	16.5
3	399380.54	3636897.63	6.75	23	399401.56	3636941.03	16.69
4	399381.14	3636896.03	4.88	24	399392.55	3636941.23	59.25
5	399395.55	3636902.83	374.72	25	399390.95	3636941.63	6.17
6	399387.55	3636904.43	490.88	26	399403.96	3636955.23	35.62
7	399385.75	3636904.23	7.07	27	399394.35	3636956.83	14.25
8	399377.54	3636904.03	28.75	28	399405.36	3636962.83	16.5
9	399397.35	3636910.43	196.69	29	399408.76	3636964.83	6.56
10	399378.94	3636910.43	17.44	30	399396.15	3636968.23	12
11	399388.15	3636911.83	366.28	31	399405.76	3636970.43	17.62
12	399379.14	3636916.43	35.72	32	399387.55	3636973.23	8.25
13	399398.16	3636917.83	89.91	33	399397.35	3636977.63	8.25
14	399389.55	3636919.23	150	34	399406.56	3636978.83	4.69
15	399380.14	3636922.43	7.12	35	399402.96	3636987.03	12
16	399399.96	3636925.63	83.25	36	399398.16	3636987.23	5.69
17	399390.15	3636927.03	15	37	399411.56	3636987.43	5.25
18	399388.35	3636925.83	5.25	38	399395.95	3636988.23	7.78
19	399382.15	3636929.03	234.38	39	399415.57	3636991.63	4.88
20	399380.74	3636927.43	17.16	Coordinates are listed in NAD 83 UTM Zone 13N			

TABLE 12. MTADS EM61 POST SEED ANOMALIES SELECTIONS.

Seeded Item Target_ID	X (UTMm)	Y (UTMm)	Line	Description	Orientation Relative to Path	Depth to the top (inches)	Matching Picked Target ID	Matching Picked Target Response (mV)
124	399387.498	3636904.067	30	SC#377	vertical	12	6	490.88
126	399395.6345	3636902.73	60	RC1	vertical	12	5	374.72
129	399388.4966	3636911.515	30	SC#385	perpendicular	12	11	366.28
133	399397.127	3636910.219	60	RC2	perpendicular	12	9	196.69
136	399389.4754	3636918.916	30	B#389	vertical	16	14	150
139	399398.2772	3636917.518	60	B#388	parallel	16	13	89.91
143	399390.5613	3636926.567	30				17	15
146	399399.5873	3636925.395	60	B#387	perpendicular	16	16	83.25
150	399391.5739	3636934.111	30	B#390	parallel	33	22	16.5
154	399392.6577	3636941.131	30	B#383	vertical	36	24	59.25
157	399401.6794	3636940.309	60	B#391	perpendicular	33	23	16.69
162	399394.529	3636956.103	30	SC#378	parallel	47	27	14.25
166	399403.9276	3636955.009	60	SC#382	perpendicular	36	26	35.62
170	399396.0226	3636967.783	30	SC#381	parallel	60	30	12
174	399405.0662	3636962.466	60	SC#386	perpendicular	48	28	16.5
177	399406.0828	3636970.02	60	SC#379	vertical	48	31	17.62
179	399397.6936	3636977.25	30	SC#380	vertical	60	33	8.25
182	399407.2504	3636977.901	60	SC#384	parallel	60	34	4.69
Coordinates are listed in NAD 83 UTM Zone 13N								

TABLE 13. MTADS EM61 SEED ITEM DETAILS WITH PICKED TARGET RESPONSE.

6.2 MAGNETIC SYSTEM

Blackhawk selected a total of 16 targets from the MTADS MAG data (Table 14). Targets were selected from the analytical signal data. The MTADS MAG system located nine out of 18 seeded items (see Figure 8). The 16 targets selected by Blackhawk along with the known seeded items are shown superimposed on the magnetic data collected over GRID 1 in Figure 9. Table 15 compares the targets selected by Blackhawk to the known seeded items. In total, Blackhawk located nine of 18 targets. One target was found within a radius of one-meter (3.3 feet), and eight seeded items were found within a radius of 0.5 meter (1.6 feet). The remaining seven targets did not correlate with seeded items. This instrument will not be used for further investigations due to its lack of ability to locate all the known seed items.

Target_ID	Easting (m)	Northing (m)	Magnitude (nT)	Target_ID	Easting (m)	Northing (m)	Magnitude (nT)
1	399395.55	3636902.83	120.6	10	399399.96	3636925.43	98
2	399387.15	3636904.23	52.17	11	399382.35	3636929.03	69.19
3	399377.74	3636904.03	8.8	12	399391.35	3636934.63	15.78
4	399396.95	3636910.43	44.75	13	399402.16	3636940.43	18.35
5	399388.55	3636911.63	47.91	14	399407.96	3636961.43	11.72
6	399398.36	3636917.83	76.74	15	399400.76	3636983.63	13.55
7	399389.35	3636919.23	87.65	16	399412.76	3636992.23	8.05
8	399380.14	3636922.43	13.1	Coordinates are listed in NAD 83 UTM Zone 13N			
9	399389.15	3636924.43	10.64				

TABLE 14. MTADS MAG POST SEED ANOMALIES SELECTIONS.

Seeded Item Target_ID	X (UTMm)	Y (UTMm)	Line	Description	Orientation Relative to Path	Depth to the top (inches)	Matching Picked Target ID	Matching Picked Target Response (nT)
124	399387.498	3636904.067	30	SC#377	vertical	12	2	52.17
126	399395.6345	3636902.73	60	RC1	vertical	12	1	120.6
129	399388.4966	3636911.515	30	SC#385	perpendicular	12	5	47.91
133	399397.127	3636910.219	60	RC2	perpendicular	12	4	44.75
136	399389.4754	3636918.916	30	B#389	vertical	16	7	87.65
139	399398.2772	3636917.518	60	B#388	parallel	16	6	76.74
143	399390.5613	3636926.567	30				not found	not found
146	399399.5873	3636925.395	60	B#387	perpendicular	16	10	98
150	399391.5739	3636934.111	30	B#390	parallel	33	12	15.78
154	399392.6577	3636941.131	30	B#383	vertical	36	not found	not found
157	399401.6794	3636940.309	60	B#391	perpendicular	33	13	18.35
162	399394.529	3636956.103	30	SC#378	parallel	47	not found	not found
166	399403.9276	3636955.009	60	SC#382	perpendicular	36	not found	not found
170	399396.0226	3636967.783	30	SC#381	parallel	60	not found	not found
174	399405.0662	3636962.466	60	SC#386	perpendicular	48	not found	not found
177	399406.0828	3636970.02	60	SC#379	vertical	48	not found	not found
179	399397.6936	3636977.25	30	SC#380	vertical	60	not found	not found
182	399407.2504	3636977.901	60	SC#384	parallel	60	not found	not found
Coordinates are listed in NAD 83 UTM Zone 13N								

TABLE 15. MTADS MAG SEED ITEM DETAILS WITH PICKED TARGET RESPONSE.

6.3 EM GROUND CONDUCTIVITY SYSTEM

The EM31 was run in both a north-south direction over GRID 1 and GRID 2 and east-west direction over Grid 2 (Figures 11-14). The EM31 system was unable to detect any difference in electrical conductivity between the disturbed and undisturbed ground. Furthermore, the EM31

data did not show any sign of the buried seed items from GRID 1. The EM31 did show a large variation in the ground conductivity over the GPO grid ranging from approximately 25-65 mS/m.

6.4 GROUND PENETRATING RADAR SYSTEM

GPR data, using a 200 MHz antenna, were collected over the 19.8-meter x 21.33-meter (65-foot x 70-foot) GPO GRID 2 known to contain two trenches. Data were collected from west to east. A total of 15 lines were collected (shown in Attachment C). The trenches are centered on 6.1 and 13.7 meters (20 feet and 45 feet). Layer discontinuity is visible in some of the GPR files over the known trenches; however, no trend is noticeable from profile to profile. This method did not successfully locate the areas of disturbed ground (trenches).

Figure 15 shows the layout of the 2.1-meter x 5.2-meter (7-foot x 17-foot) grid where 12 vials were buried at various depths and orientations. Data were collected with the 900 MHz antenna using a 15 cm (0.5 foot) line spacing. This resulted in a total of 15 survey lines collected in a south to north direction and 35 lines collected in a west to east direction.

Analysis of the data shows that the GPR was capable of detecting all the vials to a depth of 15 cm (0.5 foot). Vials were only detected when the survey lines were collected perpendicular to the orientation of, and directly over, the vial. Along two survey lines, GX1.5 and GL10, vials were detected at depths greater than 15 cm (0.5 foot). Figure 16 shows all of the vials located when data were collected in the west to east direction, and Figure 17 shows the three south to north lines that contain anomalies that coincide with vials. Table 16 lists each survey line in the west to east direction and the location of any vial detected. Table 17 lists each survey line in the south to north direction and the location of any vial detected. Although the GPR did detect the vials to depths of six inches, this survey method requires that survey lines be collected perpendicular to one another using line spacing no wider than the width of the antenna, which is approximately 18 cm. The EM31 surveys over the GPO Grid showed a wide conductivity range. This infers that although the GPR data were effective at detecting vials to depths of 15 cm, the conductivity values, which influence the depth of penetration of the GPR method, vary widely over the site, and thus the depth of detection would vary greatly over the site.

900 MHz Antenna GPR Grid					
W-E Lines Unidirectional from West=0 to East=7ft, only mark at 0 and 7					
File Name	Line	Start (w)	End (e)	Anomaly	Comments
GL0	0 ft	0	7	None	
GL0_5	0.5	0	7	None	
GL1	1	0	7	None	
GL1_5	1.5	0	7	None	
GL2	2	0	7	None	
GL2_5	2.5	0	7	None	
GL3	3	0	7	None	
GL3_5	3.5	0	7	3"	
GL4	4	0	7	None	
GL4_5	4.5	0	7	None	
GL5	5	0	7	None	
GL5_5	5.5	0	7	None	
GL6	6	0	7	None	
GL6_5	6.5	0	7	None	
GL7	7	0	7	None	
GL7_5	7.5	0	7	None	
GL8	8	0	7	None	
GL8_5	8.5	0	7	None	
GL9	9	0	7	None	
GL9_5	9.5	0	7	6"	
GL10	10	0	7	6"	Item located at the 12" location but is at 0.20 - 0.22 cm
GL10_5	10.5	0	7	None	
GL11	11	0	7	None	
GL11_5	11.5	0	7	None	
GL12	12	0	7	None	
GL12_5	12.5	0	7	None	
GL13	13	0	7	None	
GL13_5	13.5	0	7	None	
GL14	14	0	7	None	
GL14_5	14.5	0	7	None	
GL15	15	0	7	None	
GL15_5	15.5	0	7	None	
GL16	16	0	7	None	
GL16_5	16.5	0	7	None	
GL17	17	0	7	None	

TABLE 16. 900 MHZ EAST TO WEST GPO GRID 3 GPR LINE RESULTS.

900 MHz Antenna GPR Grid					
File Name	Unidirectional from South=0 to North=17				
File	Line	Start (s)	End (n)	Anomaly	Comment
GX0	0	0	17	None	
GX0_5	0.5	0	17	None	
GX1	1	0	17	None	
GX1_5	1.5	0	17	9"	Item located at the 12" location but is at 0.20 - 0.22 cm and is south of location by 8-9"
GX2	2	0	17	None	
GX2_5	2.5	0	17	None	
GX3	3	0	17	None	
GX3_5	3.5	0	17	3"	
GX4	4	0	17	3" and 6"	
GX4_5	4.5	0	17	None	
GX5	5	0	17	None	
GX5_5	5.5	0	17	None	
GX6	6	0	17	None	
GX6_5	6.5	0	17	None	
GX7	7	0	17	None	

TABLE 17. 900 MHZ SOUTH TO NORTH GPO GRID 3 GPR LINE RESULTS.

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GRID 1 Corner Points Coordinates

Easting	Northing	ID
399395.00	3636895.39	SE
399377.06	3636898.00	SW
399389.96	3636989.00	NW
399408.57	3636985.94	NE

Note: Coordinates are listed in NAD 83 UTM Zone 13

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GRID 2 Corner Points Coordinates

Easting	Northing	ID
399413.51	3636980.36	SE Corner
399393.76	3636982.79	SW Corner
399415.35	3637001.60	NE Corner
399395.76	3637003.91	NW Corner

Note: Coordinates are listed in NAD 83 UTM Zone 13

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GRID 3 Corner Points Coordinates

Easting	Northing	ID
399411.09	3636992.04	NE Corner
399408.95	3636992.29	NW Corner
399410.37	3636986.94	SE Corner
399408.27	3636987.12	SW Corner

Note: Coordinates are listed in NAD 83 UTM Zone 13

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Description of GRID 1 Seed Items.

Target_ID	X (UTMm)	Y (UTMm)	Z (UTMm)	Line	Distance (ft) to the North	Description	Orientation Relative to Path	Depth to the top (meters)	Depth to the top (inches)
124	399387.5	3636904.1	1232.405	30	25	SC#377	Vertical	0.3	12
126	399395.63	3636902.7	1232.418	60	25	RC1	Vertical	0.3	12
129	399388.5	3636911.5	1232.442	30	50	SC#385	Perpendicular	0.3	12
133	399397.13	3636910.2	1232.313	60	50	RC2	Perpendicular	0.3	12
136	399389.48	3636918.9	1232.393	30	75	B#389	Vertical	0.41	16
139	399398.28	3636917.5	1232.385	60	75	B#388	Parallel	0.41	16
143	399390.56	3636926.6	1232.009	30	100				
146	399399.59	3636925.4	1232.359	60	100	B#387	Perpendicular	0.41	16
150	399391.57	3636934.1	1231.852	30	125	B#390	Parallel	0.84	33
154	399392.66	3636941.1	1231.694	30	150	B#383	Vertical	0.91	36
157	399401.68	3636940.3	1231.646	60	150	B#391	Perpendicular	0.84	33
162	399394.53	3636956.1	1231.268	30	200	SC#378	Parallel	1.19	47
166	399403.93	3636955	1231.482	60	200	SC#382	Perpendicular	0.91	36
170	399396.02	3636967.8	1230.909	30	237	SC#381	Parallel	1.52	60
174	399405.07	3636962.5	1231.213	60	225	SC#386	Perpendicular	1.22	48
177	399406.08	3636970	1231.204	60	250	SC#379	Vertical	1.22	48
179	399397.69	3636977.3	1230.904	30	270	SC#380	Vertical	1.52	60
182	399407.25	3636977.9	1230.876	60	275	SC#384	Parallel	1.52	60

Coordinates are listed in NAD 83 UTM Zone 13N

RC = REAL CAN

SC = SIMULATED CAN

B = BOMBLET

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Trench Endpoints Coordinates

Easting	Northing	ID
399409.02	3636986.37	Trench1 South
399409.72	3636994.84	Trench1 North
399400.99	3636999.08	Trench2 North
399400.06	3636987.10	Trench2 South

Note: Coordinates are listed in NAD 83 UTM Zone 13

Holloman GPO Report
Project Number 401.008

Description of GRID 3 Seed Items.

Target_ID	X (UTMm)	Y (UTMm)	Z (UTMm)	Depth (inches)	Depth (meters)	Description	Orientation
1VIAL-1	399409.63	3636987.913	1232.218	3	0.076	Glass Vial	North-South
1VIAL-2	399409.65	3636988.123	1232.231				
2VIAL-1	399409.65	3636988.704	1232.222	3	0.076	Glass Vial	East-West
2VIAL-2	399409.85	3636988.688	1232.247				
3VIAL-1	399409.87	3636989.313	1232.069	3	0.076	Glass Vial	Vertical
4VIAL-1	399409.93	3636989.935	1232.131	6	0.15	Glass Vial	North-South
4VIAL-2	399409.97	3636990.149	1232.157				
5VIAL-1	399409.96	3636990.722	1232.136	6	0.15	Glass Vial	East-West
5VIAL-2	399410.16	3636990.69	1232.137				
6VIAL-1	399410.07	3636991.463	1231.984	6	0.15	Glass Vial	Vertical
7VIAL-1	399408.93	3636987.933	1232.068	9	0.23	Glass Vial	North-South
7VIAL-2	399408.98	3636988.124	1232.079				
8VIAL-1	399408.97	3636988.815	1232.036	9	0.23	Glass Vial	East-West
8VIAL-2	399409.16	3636988.77	1232.043				
9VIAL-1	399409.22	3636989.419	1231.911	9	0.23	Glass Vial	Vertical
10VIAL-1	399409.3	3636990.043	1231.939	12	0.3	Glass Vial	North-South
10VIAL-2	399409.31	3636990.266	1231.918				
11VIAL-1	399409.27	3636990.946	1232.026	12	0.3	Glass Vial	East-West
11VIAL-2	399409.49	3636990.926	1231.97				
12VIAL-1	399409.42	3636991.496	1231.899	12	0.3	Glass Vial	Vertical
Coordinates are listed in NAD 83 UTM Zone 13N							

Holloman GPO Report
Project Number 401.008

Base Station Coordinates

Easting	Northing	ID	Latitude	Longitude
399529.840	3637688.790	CP2	32.52.21.82	-106.04.26.22
Note: Coordinates are listed in NAD 83 UTM Zone 13			Note: Coordinates are listed in WGS 84 coordinates.	

Holloman GPO Report
Project Number 401.008

MAG Base Station Coordinates

Easting	Northing	ID
399364.33	3636807.33	CP2
Note: Coordinates are listed in NAD 83 UTM Zone 13		

Holloman GPO Report
Project Number 401.008

Static Point Coordinates

Easting	Northing	ID
399409.522	3636909.274	STATIC PT

Note: Coordinates are listed in NAD 83 UTM Zone 13

Holloman GPO Report
Project Number 401.008

Six Line Test Seed Item Coordinates

Easting	Northing	ID
399414.439	3636943.827	6 Line Test PT

Note: Coordinates are listed in NAD 83 UTM Zone 13

Holloman GPO Report
Project Number 401.008

Latency Test Seed Item Coordinates

Easting	Northing	ID
399414.440	3636943.830	Latency PT

Note: Coordinates are listed in NAD 83 UTM Zone 13

Holloman GPO Report
Project Number 401.008

EM61 Target Selections Over Grid 1

Target_ID	Easting (m)	Northing (m)	Magnitude (mV)	Target_ID	Easting (m)	Northing (m)	Magnitude (mV)
1	399380.34	3636897.23	7.78	21	399398.76	3636931.43	6.38
2	399380.14	3636895.63	7.12	22	399391.35	3636934.63	16.5
3	399380.54	3636897.63	6.75	23	399401.56	3636941.03	16.69
4	399381.14	3636896.03	4.88	24	399392.55	3636941.23	59.25
5	399395.55	3636902.83	374.72	25	399390.95	3636941.63	6.17
6	399387.55	3636904.43	490.88	26	399403.96	3636955.23	35.62
7	399385.75	3636904.23	7.07	27	399394.35	3636956.83	14.25
8	399377.54	3636904.03	28.75	28	399405.36	3636962.83	16.5
9	399397.35	3636910.43	196.69	29	399408.76	3636964.83	6.56
10	399378.94	3636910.43	17.44	30	399396.15	3636968.23	12
11	399388.15	3636911.83	366.28	31	399405.76	3636970.43	17.62
12	399379.14	3636916.43	35.72	32	399387.55	3636973.23	8.25
13	399398.16	3636917.83	89.91	33	399397.35	3636977.63	8.25
14	399389.55	3636919.23	150	34	399406.56	3636978.83	4.69
15	399380.14	3636922.43	7.12	35	399402.96	3636987.03	12
16	399399.96	3636925.63	83.25	36	399398.16	3636987.23	5.69
17	399390.15	3636927.03	15	37	399411.56	3636987.43	5.25
18	399388.35	3636925.83	5.25	38	399395.95	3636988.23	7.78
19	399382.15	3636929.03	234.38	39	399415.57	3636991.63	4.88
20	399380.74	3636927.43	17.16	Coordinates are listed in NAD 83 UTM Zone 13N			

Holloman GPO Report
Project Number 401.008

MTADS EM61 Seed Item Details With Picked Target Response

Seeded Item Target_ID	X (UTMm)	Y (UTMm)	Line	Description	Orientation Relative to Path	Depth to the top (inches)	Matching Picked Target ID	Matching Picked Target Response (mV)
124	399387.498	3636904.067	30	SC#377	vertical	12	6	490.88
126	399395.6345	3636902.73	60	RC1	vertical	12	5	374.72
129	399388.4966	3636911.515	30	SC#385	perpendicular	12	11	366.28
133	399397.127	3636910.219	60	RC2	perpendicular	12	9	196.69
136	399389.4754	3636918.916	30	B#389	vertical	16	14	150
139	399398.2772	3636917.518	60	B#388	parallel	16	13	89.91
143	399390.5613	3636926.567	30				17	15
146	399399.5873	3636925.395	60	B#387	perpendicular	16	16	83.25
150	399391.5739	3636934.111	30	B#390	parallel	33	22	16.5
154	399392.6577	3636941.131	30	B#383	vertical	36	24	59.25
157	399401.6794	3636940.309	60	B#391	perpendicular	33	23	16.69
162	399394.529	3636956.103	30	SC#378	parallel	47	27	14.25
166	399403.9276	3636955.009	60	SC#382	perpendicular	36	26	35.62
170	399396.0226	3636967.783	30	SC#381	parallel	60	30	12
174	399405.0662	3636962.466	60	SC#386	perpendicular	48	28	16.5
177	399406.0828	3636970.02	60	SC#379	vertical	48	31	17.62
179	399397.6936	3636977.25	30	SC#380	vertical	60	33	8.25
182	399407.2504	3636977.901	60	SC#384	parallel	60	34	4.69

Coordinates are listed in NAD 83 UTM Zone 13N

Holloman GPO Report
Project Number 401.008

MTADS MAG Target Selections Over Grid 1

Target_ID	Easting (m)	Northing (m)	Magnitude (nT)	Target_ID	Easting (m)	Northing (m)	Magnitude (nT)
1	399395.55	3636902.83	120.6	10	399399.96	3636925.43	98
2	399387.15	3636904.23	52.17	11	399382.35	3636929.03	69.19
3	399377.74	3636904.03	8.8	12	399391.35	3636934.63	15.78
4	399396.95	3636910.43	44.75	13	399402.16	3636940.43	18.35
5	399388.55	3636911.63	47.91	14	399407.96	3636961.43	11.72
6	399398.36	3636917.83	76.74	15	399400.76	3636983.63	13.55
7	399389.35	3636919.23	87.65	16	399412.76	3636992.23	8.05
8	399380.14	3636922.43	13.1	Coordinates are listed in NAD 83 UTM Zone 13N			
9	399389.15	3636924.43	10.64				

Holloman GPO Report
Project Number 401.008

MTADS EM61 Seed Item Details With Picked Target Response

Seeded Item Target_ID	X (UTMm)	Y (UTMm)	Line	Description	Orientation Relative to Path	Depth to the top (inches)	Matching Picked Target ID	Matching Picked Target Response (nT)
124	399387.498	3636904.067	30	SC#377	vertical	12	2	52.17
126	399395.6345	3636902.73	60	RC1	vertical	12	1	120.6
129	399388.4966	3636911.515	30	SC#385	perpendicular	12	5	47.91
133	399397.127	3636910.219	60	RC2	perpendicular	12	4	44.75
136	399389.4754	3636918.916	30	B#389	vertical	16	7	87.65
139	399398.2772	3636917.518	60	B#388	parallel	16	6	76.74
143	399390.5613	3636926.567	30				not found	not found
146	399399.5873	3636925.395	60	B#387	perpendicular	16	10	98
150	399391.5739	3636934.111	30	B#390	parallel	33	12	15.78
154	399392.6577	3636941.131	30	B#383	vertical	36	not found	not found
157	399401.6794	3636940.309	60	B#391	perpendicular	33	13	18.35
162	399394.529	3636956.103	30	SC#378	parallel	47	not found	not found
166	399403.9276	3636955.009	60	SC#382	perpendicular	36	not found	not found
170	399396.0226	3636967.783	30	SC#381	parallel	60	not found	not found
174	399405.0662	3636962.466	60	SC#386	perpendicular	48	not found	not found
177	399406.0828	3636970.02	60	SC#379	vertical	48	not found	not found
179	399397.6936	3636977.25	30	SC#380	vertical	60	not found	not found
182	399407.2504	3636977.901	60	SC#384	parallel	60	not found	not found

Coordinates are listed in NAD 83 UTM Zone 13N

Holloman GPO Report
Project Number 401.008

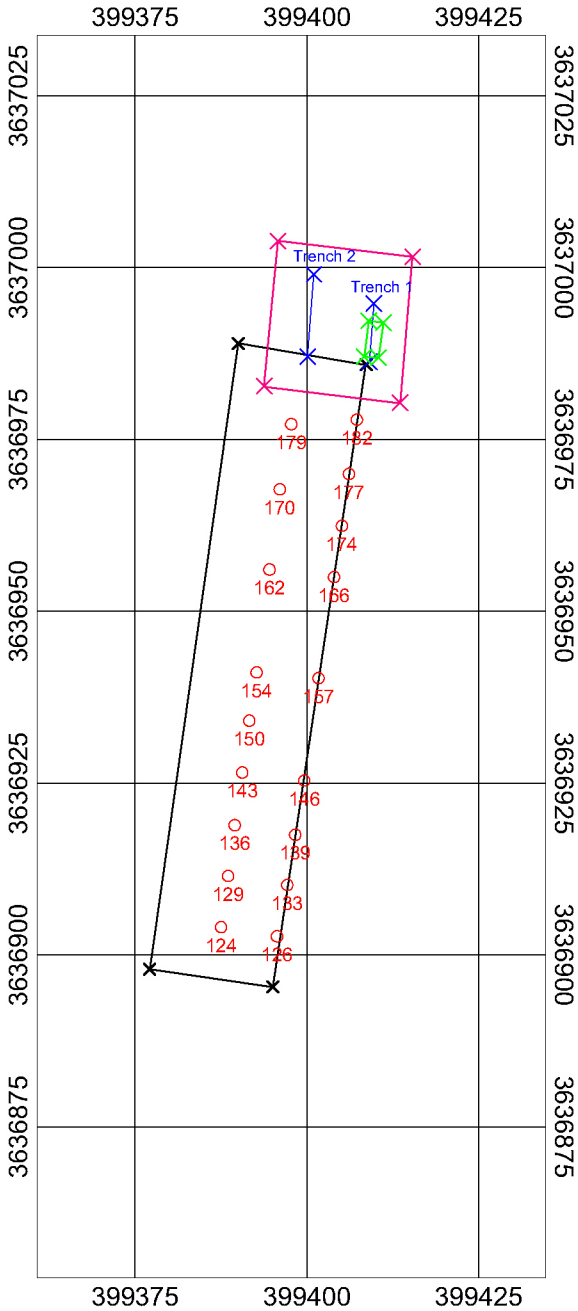
900 MHZ east to west GPO GRID 3 Results

900 MHz Antenna GPR Grid					
W-E Lines	Unidirectional from West=0 to East=7ft, only mark at 0 and 7				
File Name	Line	Start (w)	End (e)	Anomaly	Comments
GL0	0 ft	0	7	None	
GL0_5	0.5	0	7	None	
GL1	1	0	7	None	
GL1_5	1.5	0	7	None	
GL2	2	0	7	None	
GL2_5	2.5	0	7	None	
GL3	3	0	7	None	
GL3_5	3.5	0	7	3"	
GL4	4	0	7	None	
GL4_5	4.5	0	7	None	
GL5	5	0	7	None	
GL5_5	5.5	0	7	None	
GL6	6	0	7	None	
GL6_5	6.5	0	7	None	
GL7	7	0	7	None	
GL7_5	7.5	0	7	None	
GL8	8	0	7	None	
GL8_5	8.5	0	7	None	
GL9	9	0	7	None	
GL9_5	9.5	0	7	6"	
GL10	10	0	7	6"	Item located at the 12" location but is at 0.20 - 0.22 cm
GL10_5	10.5	0	7	None	
GL11	11	0	7	None	
GL11_5	11.5	0	7	None	
GL12	12	0	7	None	
GL12_5	12.5	0	7	None	
GL13	13	0	7	None	
GL13_5	13.5	0	7	None	
GL14	14	0	7	None	
GL14_5	14.5	0	7	None	
GL15	15	0	7	None	
GL15_5	15.5	0	7	None	
GL16	16	0	7	None	
GL16_5	16.5	0	7	None	
GL17	17	0	7	None	

Holloman GPO Report
Project Number 401.008

900 MHZ north to south GPO GRID 3 Results

900 MHz Antenna GPR Grid					
File Name	Unidirectional from South=0 to North=17				
File	Line	Start (s)	End (n)	Anomaly	Comment
GX0	0	0	17	None	
GX0_5	0.5	0	17	None	
GX1	1	0	17	None	
GX1_5	1.5	0	17	9"	Item located at the 12" location but is at 0.20 - 0.22 cm and is south of location by 8-9"
GX2	2	0	17	None	
GX2_5	2.5	0	17	None	
GX3	3	0	17	None	
GX3_5	3.5	0	17	3"	
GX4	4	0	17	3" and 6"	
GX4_5	4.5	0	17	None	
GX5	5	0	17	None	
GX5_5	5.5	0	17	None	
GX6	6	0	17	None	
GX6_5	6.5	0	17	None	
GX7	7	0	17	None	



25 0
metres
NAD 83 UTM Zone 13N

Explanation	
×	GPO GRID 1 Corner
/	GPO GRID 1 Outline
×	GPO GRID 2 Corner
/	GPO GRID 2 Outline
×	GPO GRID 3 Corner
/	GPO GRID 3 Outline
×	Trench Endpoint
/	Trench Path
○	GRID 1 Seeded Items
4	GRID 1 Seeded Items ID

Target_ID	Description	Orientation Relative to Path	Depth to the top (meters)	Depth to the top (inches)
124	SC#377	vertical	0.3	12
126	RC1	vertical	0.3	12
129	SC#385	perpendicular	0.3	12
133	RC2	perpendicular	0.3	12
136	B#389	vertical	0.41	16
139	B#388	parallel	0.41	16
143				
146	B#387	perpendicular	0.41	16
150	B#390	parallel	0.84	33
154	B#383	vertical	0.91	36
157	B#391	perpendicular	0.84	33
162	SC#378	parallel	1.19	47
166	SC#382	perpendicular	0.91	36
170	SC#381	parallel	1.52	60
174	SC#386	perpendicular	1.22	48
177	SC#379	vertical	1.22	48
179	SC#380	vertical	1.52	60
182	SC#384	parallel	1.52	60

Coordinates are listed in NAD 83 UTM Zone 13N

RC = REAL CAN

SC = SIMULATED CAN

B = BOMBLET

Note: Targets in GRID 3 are not shown.

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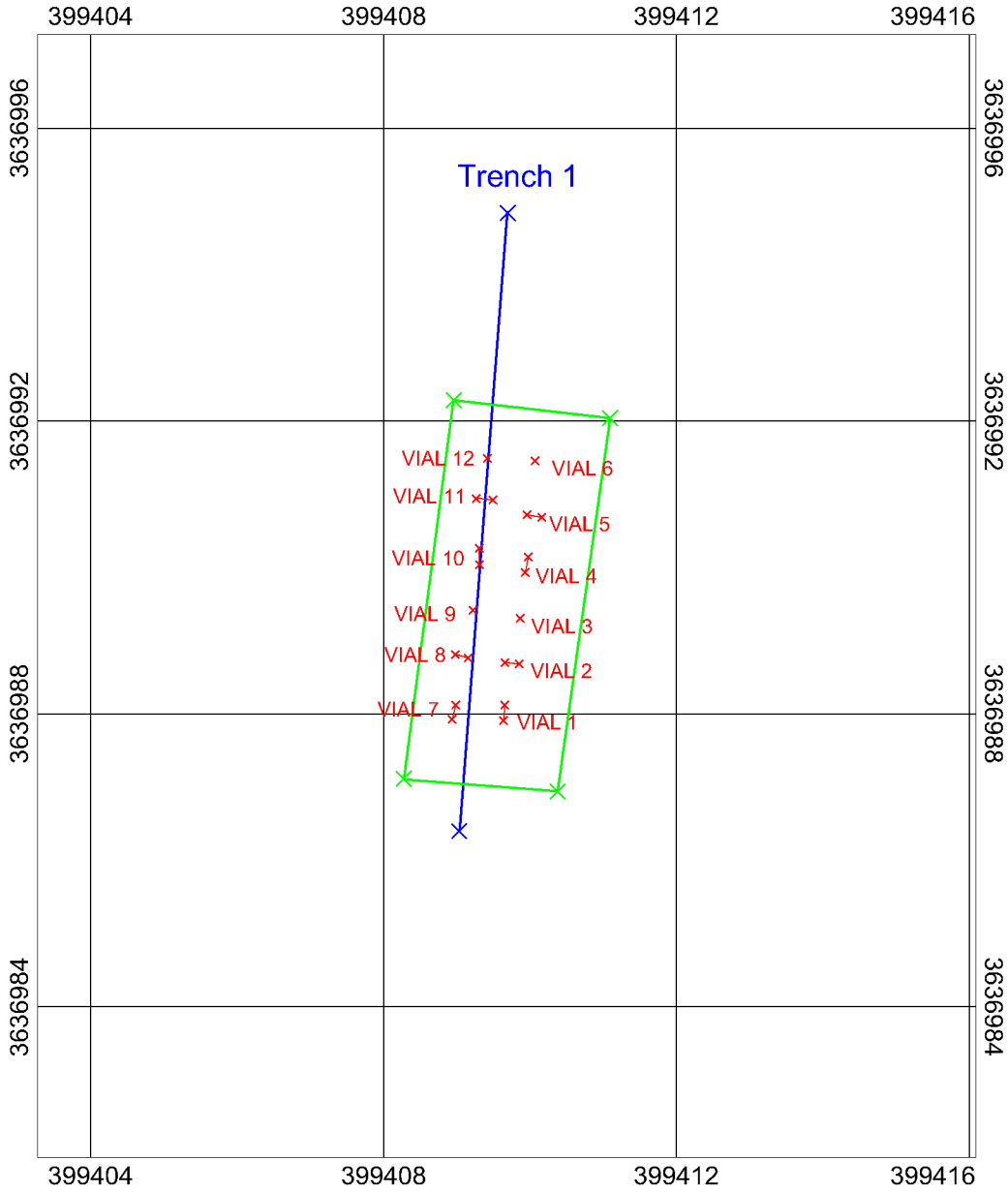
Golden, Colorado

As-Built Map
GRID 1, GRID 2, GRID 3,
Trenches, and Seeded Items

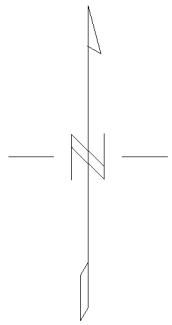
Holloman AFB
New Mexico

Figure No.
1
Project No.
0401-008
File
Figure
PM:
J.P.
Date:
06/04

Zapata Engineering



Explanation	
	GPO GRID 3 Corner
	GPO GRID 3 Outline
	GRID 3 Seeded Items
VIAL 5	GRID 3 Seeded Items ID
	Trench Endpoint
	Trench Path



1 0 1 2
metres
NAD 83 UTM Zone 13N

Target_ID	Depth (inches)	Depth (meters)	Description	Orientation
VIAL 1	3	0.076	Glass Vial	North-South
VIAL 2	3	0.076	Glass Vial	East-West
VIAL 3	3	0.076	Glass Vial	Vertical
VIAL 4	6	0.15	Glass Vial	North-South
VIAL 5	6	0.15	Glass Vial	East-West
VIAL 6	6	0.15	Glass Vial	Vertical
VIAL 7	9	0.23	Glass Vial	North-South
VIAL 8	9	0.23	Glass Vial	East-West
VIAL 9	9	0.23	Glass Vial	Vertical
VIAL 10	12	0.3	Glass Vial	North-South
VIAL 11	12	0.3	Glass Vial	East-West
VIAL 12	12	0.3	Glass Vial	Vertical
Coordinates are listed in NAD 83 UTM Zone 13N				

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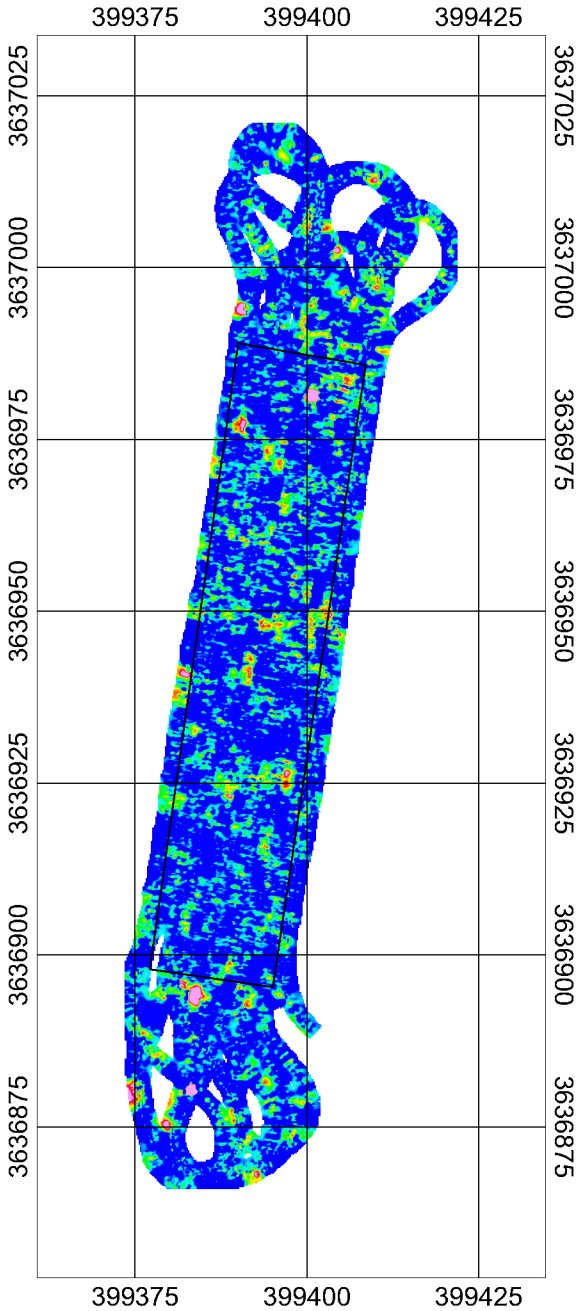
As-Built Map
GRID 3
Trenches and Seeded Items

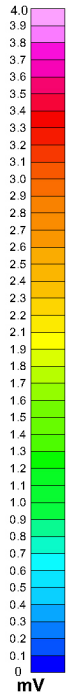
Holloman AFB
New Mexico

Figure No.
2
Project No.
0401-008
File
Figure
PM:
J.P.
Date:
06/04

Zapata Engineering



Explanation
GPO GRID 1 Outline



25 0

metres

NAD 83 UTM Zone 13N

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Golden, Colorado

GPO GRID 1
MTADS EM61 Data
Pre-Seeded Map

Holloman AFB
New Mexico

Figure No.
3
Project No.
0401-008
File
Figures
PM:
J.P.
Date:
06/04

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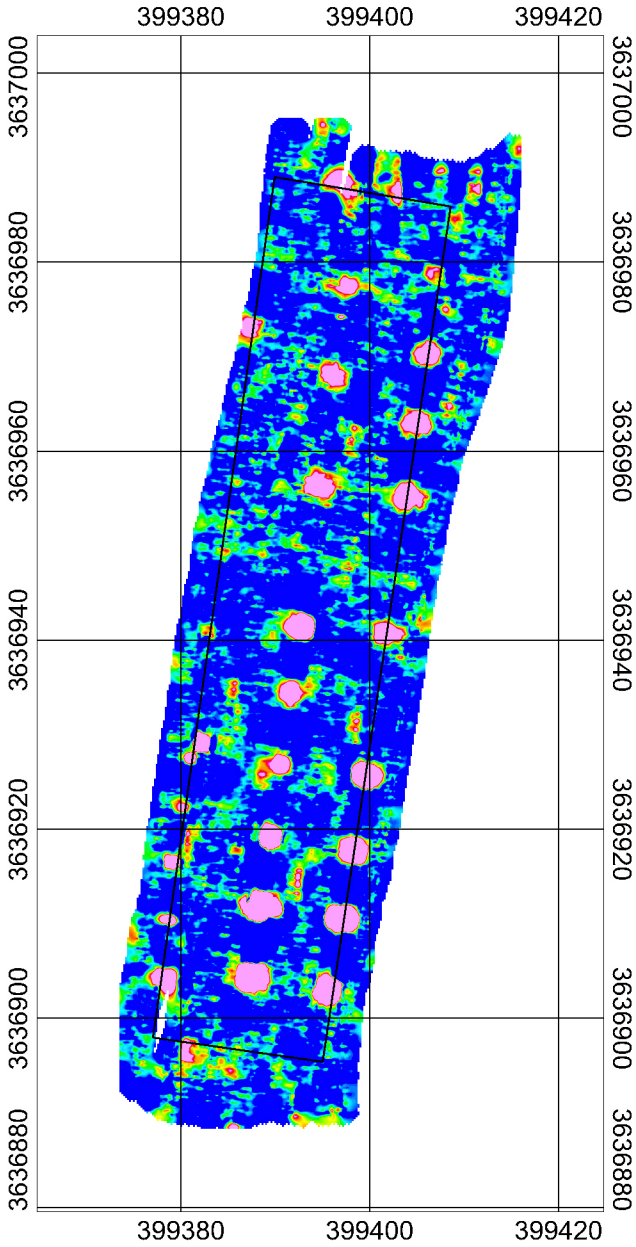
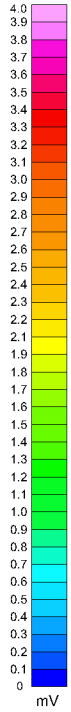
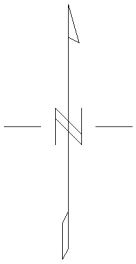


Explanation
GPO GRID 1 Outline





10 0 10

metres

NAD 83 UTM Zone 13N

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Golden, Colorado

GPO GRID 1
MTADS EM61 Data
Post-Seeded Map

Holloman AFB
New Mexico

Figure No.
4

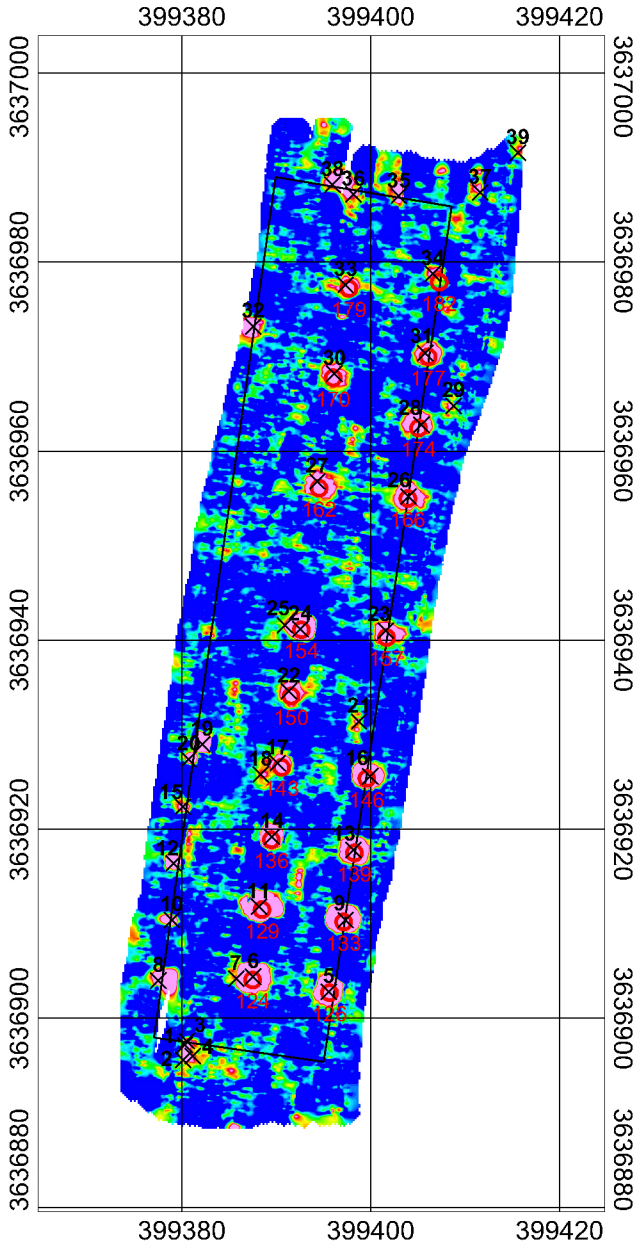
Project No.
0401-008

File
Figures

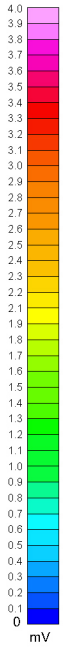
PM:
J.P.

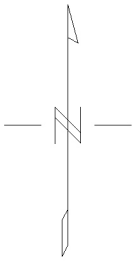
Date:
5/21/04

Zapata Engineering



Explanation	
12	Target ID
×	Target Selection
○	Seeded Item
4	Seeded Item ID
/	GPO GRID 1 Outline





10 0 10
metres
NAD 83 UTM Zone 13N

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Golden, Colorado

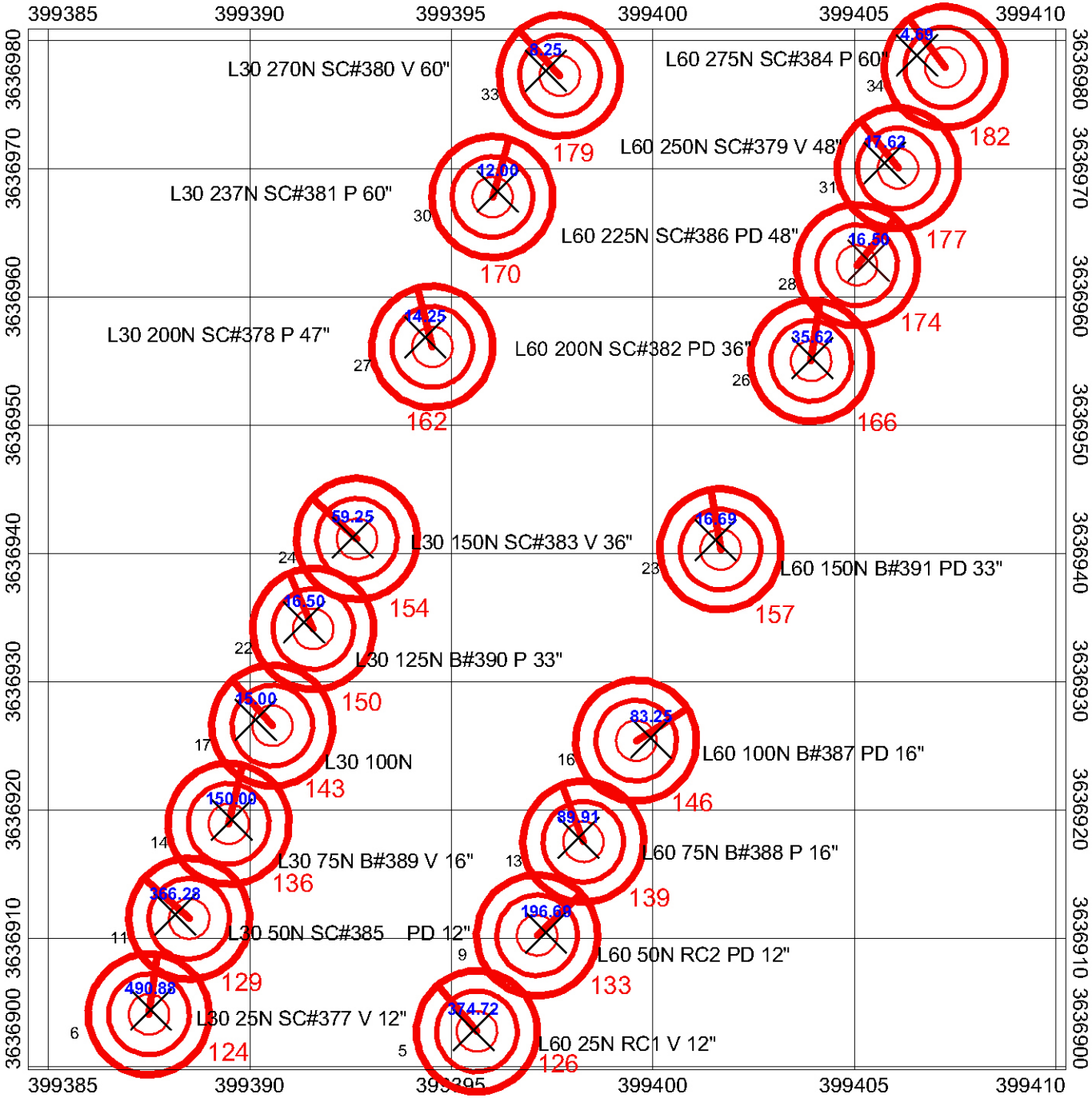
GPO GRID 1
MTADS EM61 Data
Post-Seeded Map
with picked targets

Holloman AFB
New Mexico

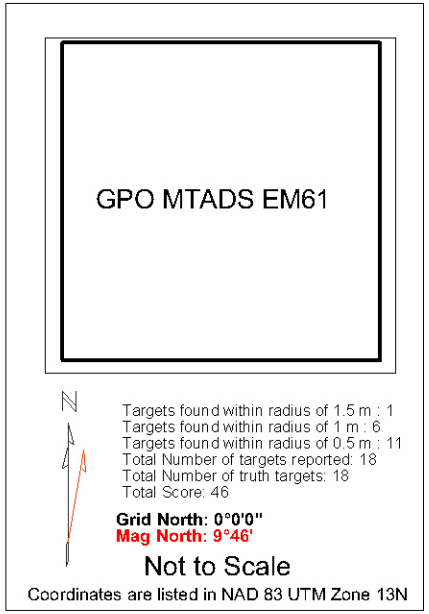
Figure No.
5
Project No.
0401-008
File
figures
PM:
J.P.
Date:
5/21/04

Zapata Engineering

DESCRIPTION: L30 is Line 30 25N is 25 feet North SC#377 is Seed Item Number V is vertical PD is perpendicular P is parallel 12" is depth (inches) to the top of item



Explanation	
×	Target ID
12	Target Selection
⊙	Seeded Item
4	Seeded Item ID
25.22	Target Magnitude (mV)
L60 275N SC#384 V 60"	Target Description



November 2004
Revision 1

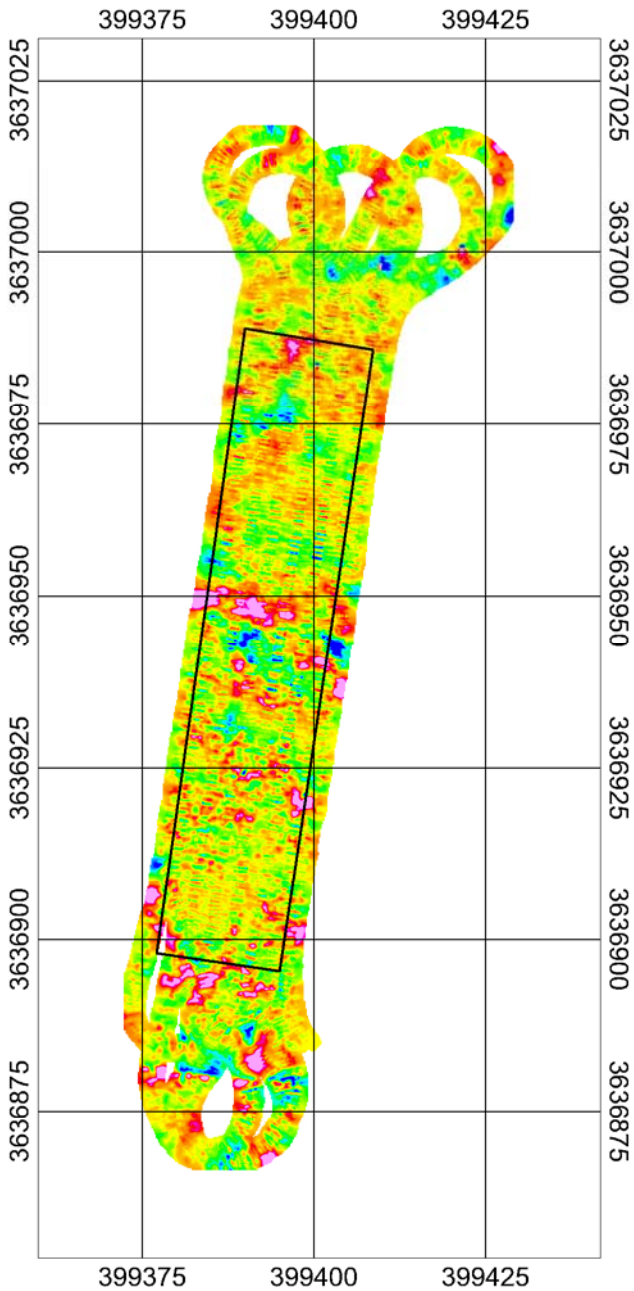
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS EM61
Picked Versus Seeded
Items Results

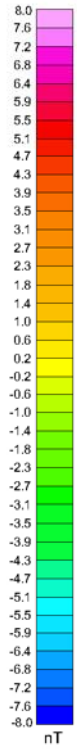
Holloman AFB
New Mexico

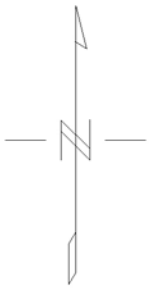
Figure No. *6*
Project No. *0401-008*
File *figures*
PM: *J.P.*
Date: *06/04*

Zapata Engineering



Explanation
GPO GRID 1 Outline





25 0

metres

NAD 83 UTM Zone 13N

November 2004
Revision 1

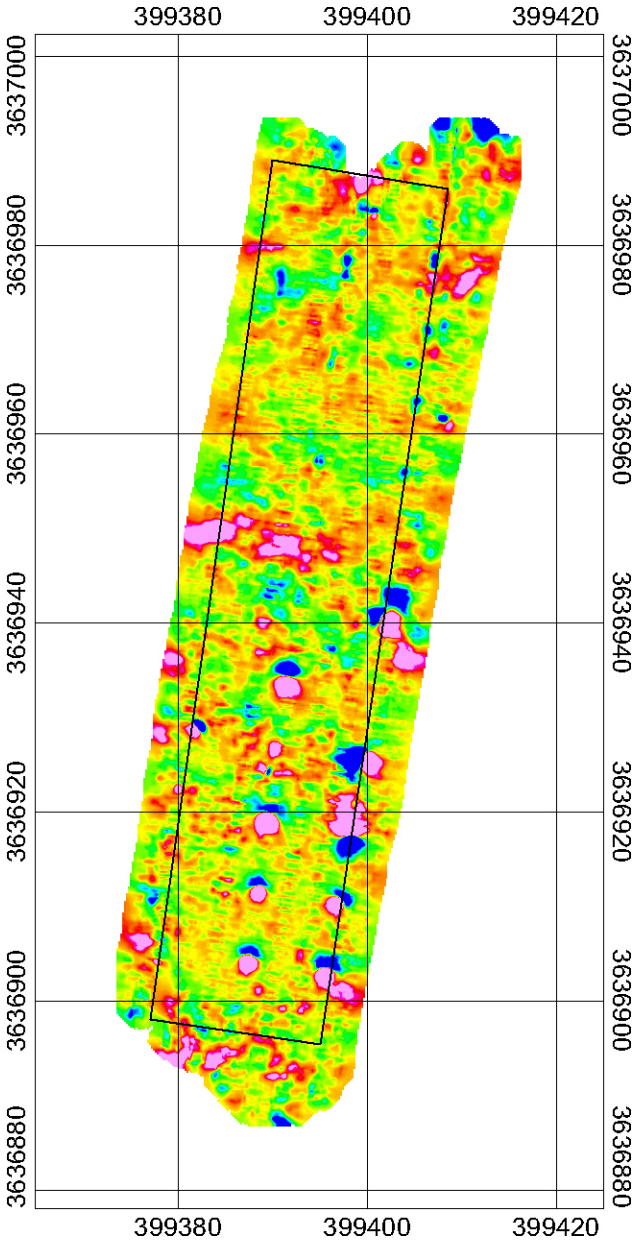
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS MAG Data
Pre-Seeded Map

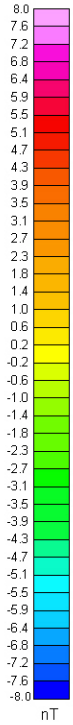
Holloman AFB
New Mexico

Figure No.
7
Project No.
0401-008
File
Figures
PM:
J.P.
Date:
5/17/04

Zapata Engineering



Explanation
GPO GRID 1 Outline



Grid North: 0°0'0"

Mag North: 9°46'

10 0 10

metres

NAD 83 UTM Zone 13N

November 2004
Revision 1

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS MAG Data
Post-Seeded Map

Holloman AFB
New Mexico

Figure No.
8

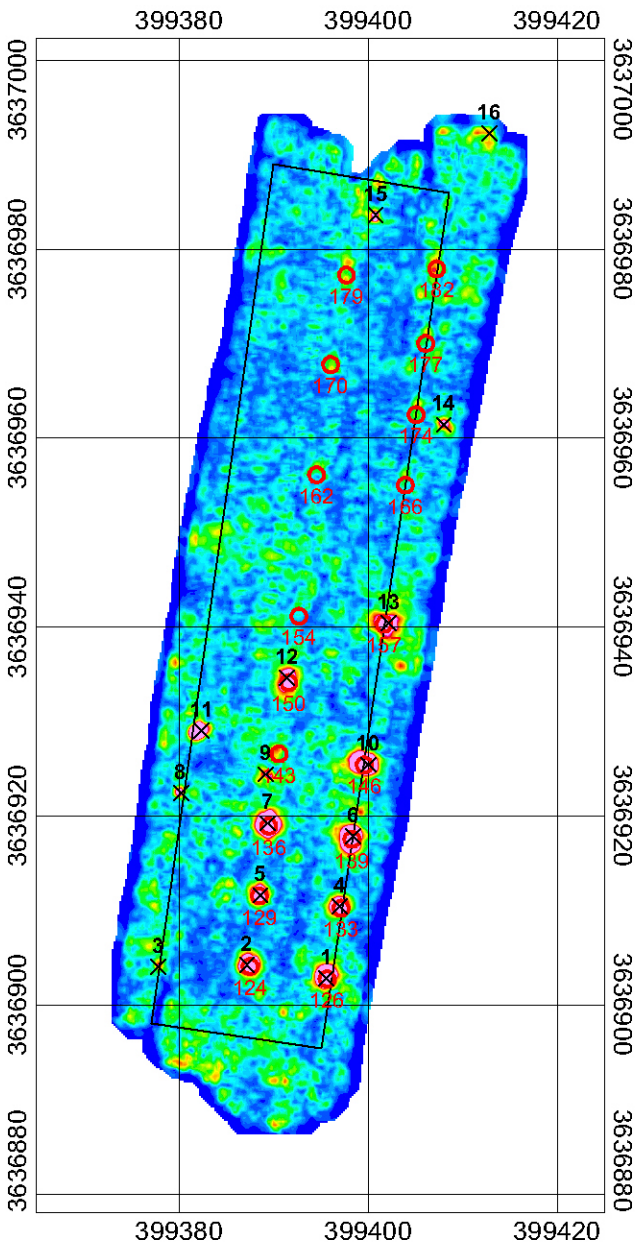
Project No.
0401-008

File
Figures

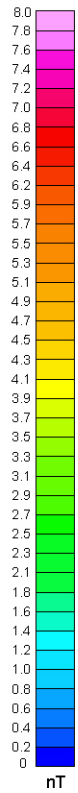
PM:
J.P.

Date:
5/21/04

Zapata Engineering



Explanation	
12	Target ID
	Target Selection
	Seeded Item
4	Seeded Item ID
	GPO Grid Outline



Grid North: 0°0'0"

Mag North: 9°46'

10 0 10

metres

NAD 83 UTM Zone 13N

November 2004
Revision 1

Blackhawk
Geophysical & UXO Services
Golden, Colorado

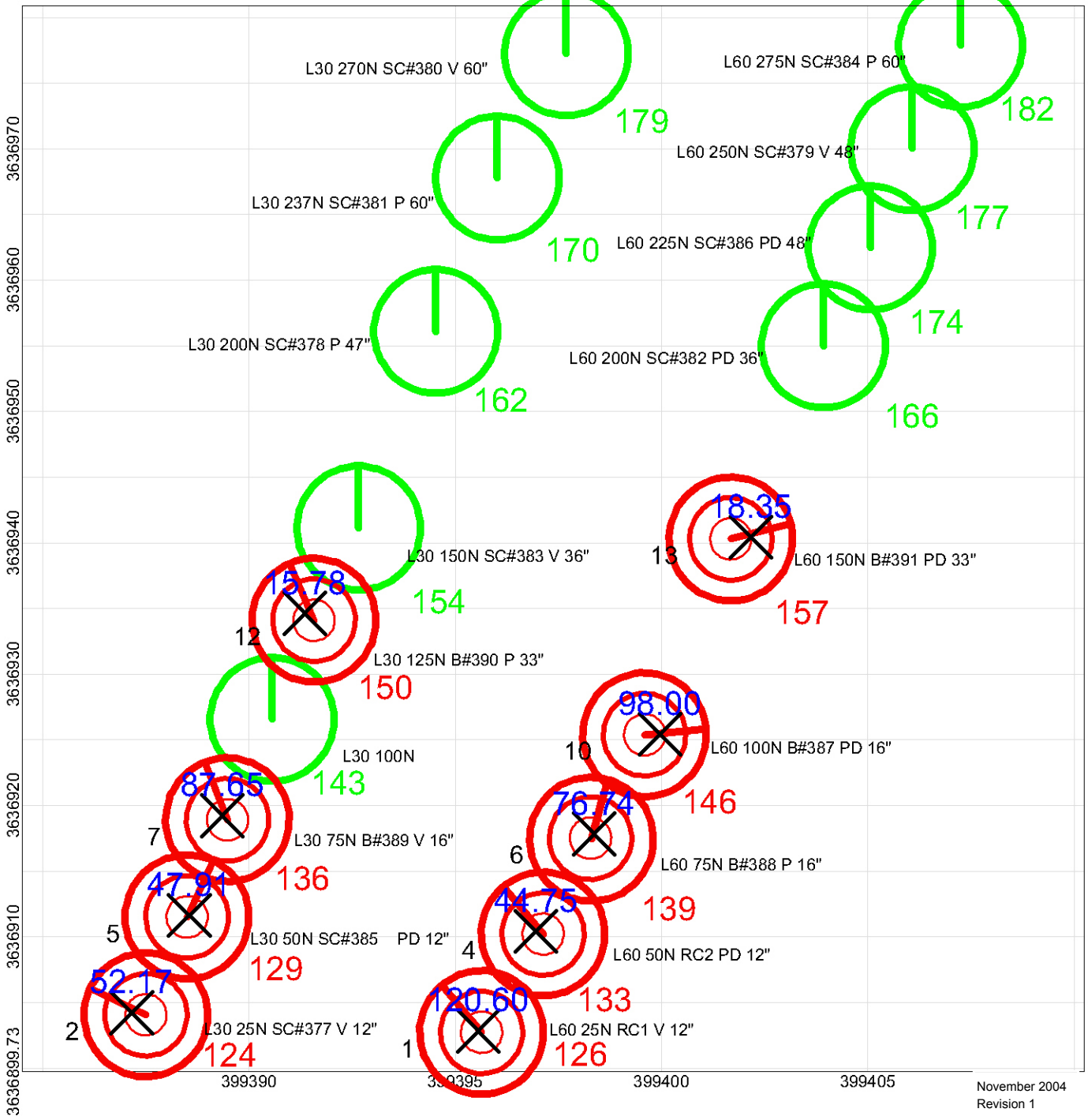
GPO GRID 1
MTADS MAG Data
Post-Seeded Map
with boxcar filter, analytic
signal, and picked targets

Holloman AFB
New Mexico

Figure No.
9
Project No.
0401-008
File
Figures
PM:
J.P.
Date:
5/21/04

Zapata Engineering

DESCRIPTION: L30 is Line 30 25N is 25 feet North SC#377 is Seed Item Number V is vertical PD is perpendicular P is parallel 12" is depth (inches) to the top of item



November 2004
Revision 1

Explanation

×	Target ID
12	Target Selection
	Seeded Item (Located)
4	Seeded Item ID (Located)
	Seeded Item (Not Located)
4	Seeded Item ID (Not Located)
25.22	Target Magnitude (nT)
L60 275N SC#384 V 60"	Target Description

GPO MTADS MAG

Targets found within radius of 1 m : 1
Targets found within radius of 0.5 m : 8
Total Number of targets reported: 9
Total Number of truth targets: 18
Total Score: 26

Grid North: 0°0'0"
Mag North: 9°46'

Not to Scale

Coordinates are listed in NAD 83 UTM Zone 13N

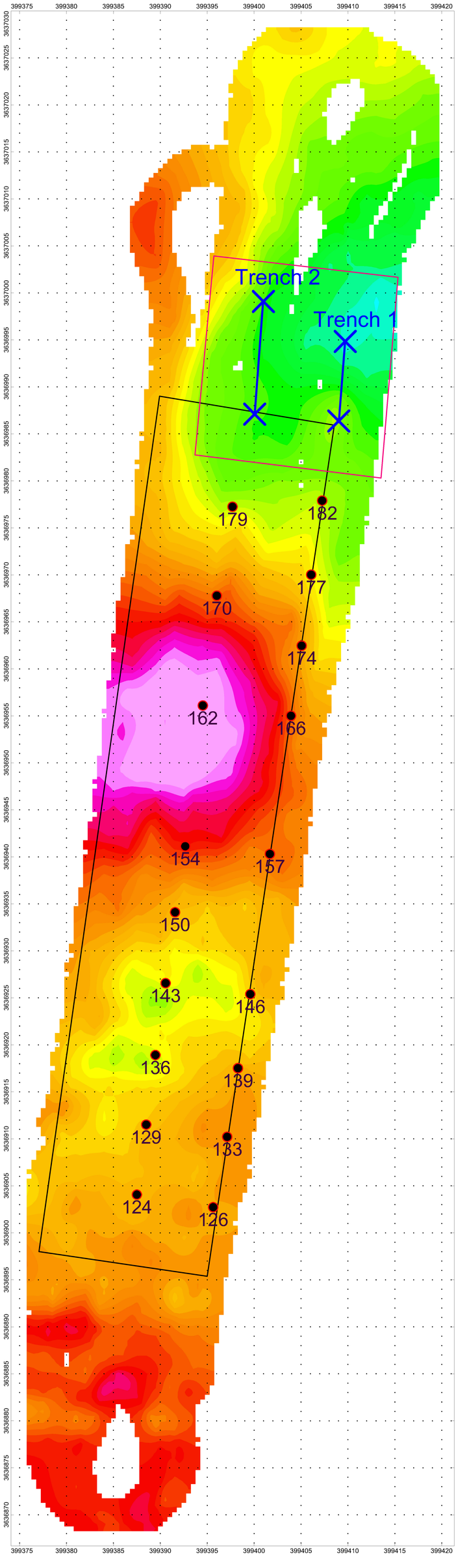
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1
MTADS MAG
Picked Versus Seeded
Items Results

Holloman AFB
New Mexico

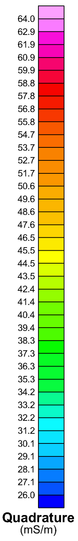
Figure No. *10*
Project No. *0401-008*
File *figures*
PM: *J.P.*
Date: *06/04*

Zapata Engineering



Explanation

- GPO GRID 2 Outline
- GPO GRID 1 Outline
- Trench Endpoint
- Trench Path
- GRID 1 Seeded Items
- 4 GRID 1 Seeded Items ID



Scale 1:200

2.5 0 2.5 5 7.5 10 12.5

metres

NAD 83 UTM Zone 13N

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1 and GRID 2
EM31 Data
Quadrature Phase
NS Lines

Holloman AFB
New Mexico

Figure No.
11

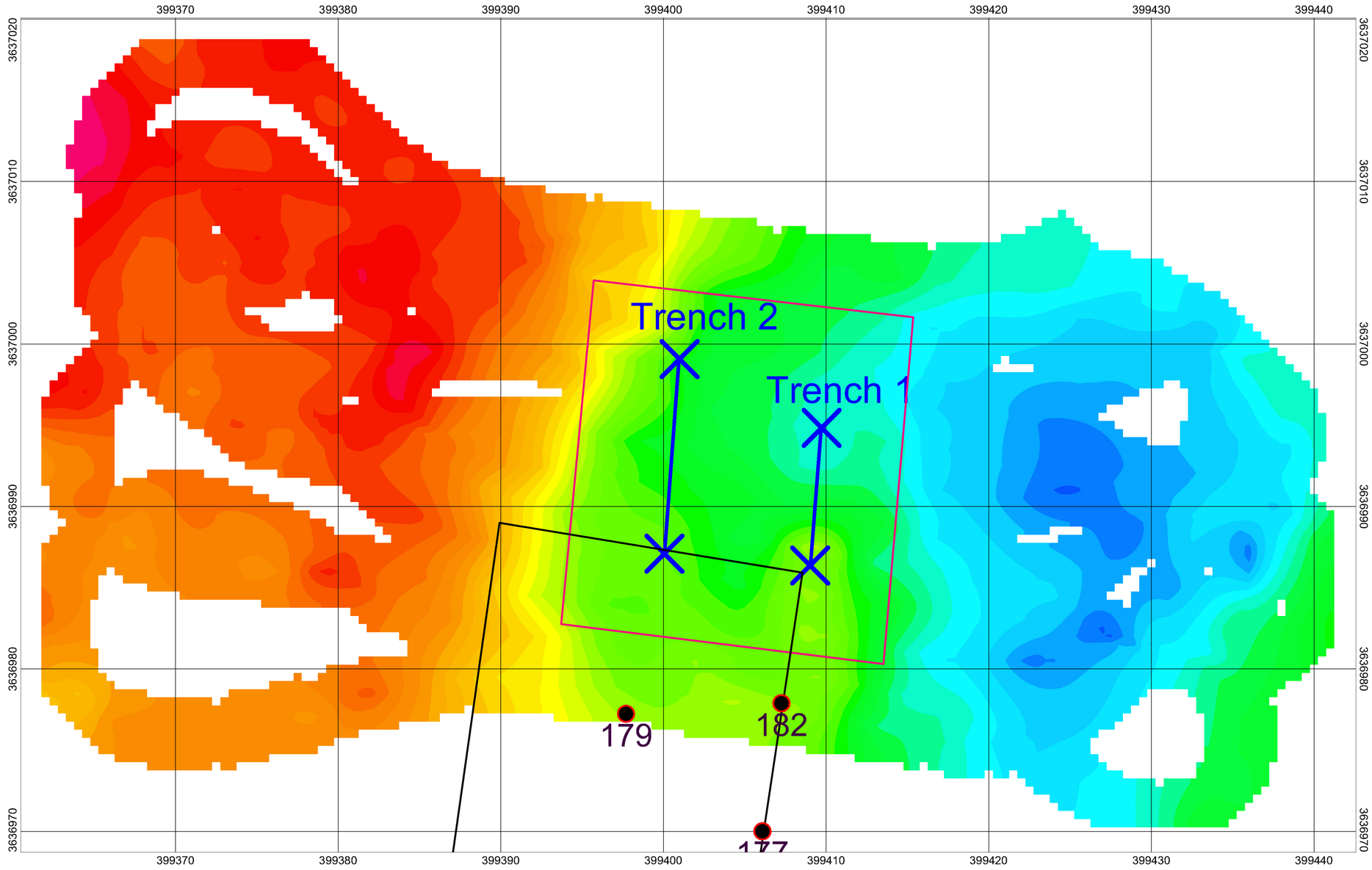
Project No.
0401-008

File
Figures

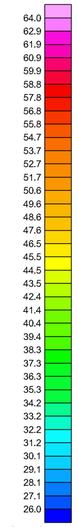
PM:
J.P.

Date:
5/22/04

Zapata Engineering



Explanation	
	GPO GRID 2 Outline
	GPO GRID 1 Outline
	Trench Endpoint
	Trench Path
	GRID 1 Seeded Items
4	GRID 1 Seeded Items ID



Scale 1:200

2.5 0 2.5 5 7.5 10 12.5 15

metres

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1 and GRID 2
EM31 Data
Quadrature Phase
EW Lines

Holloman AFB
New Mexico

Figure No.
12

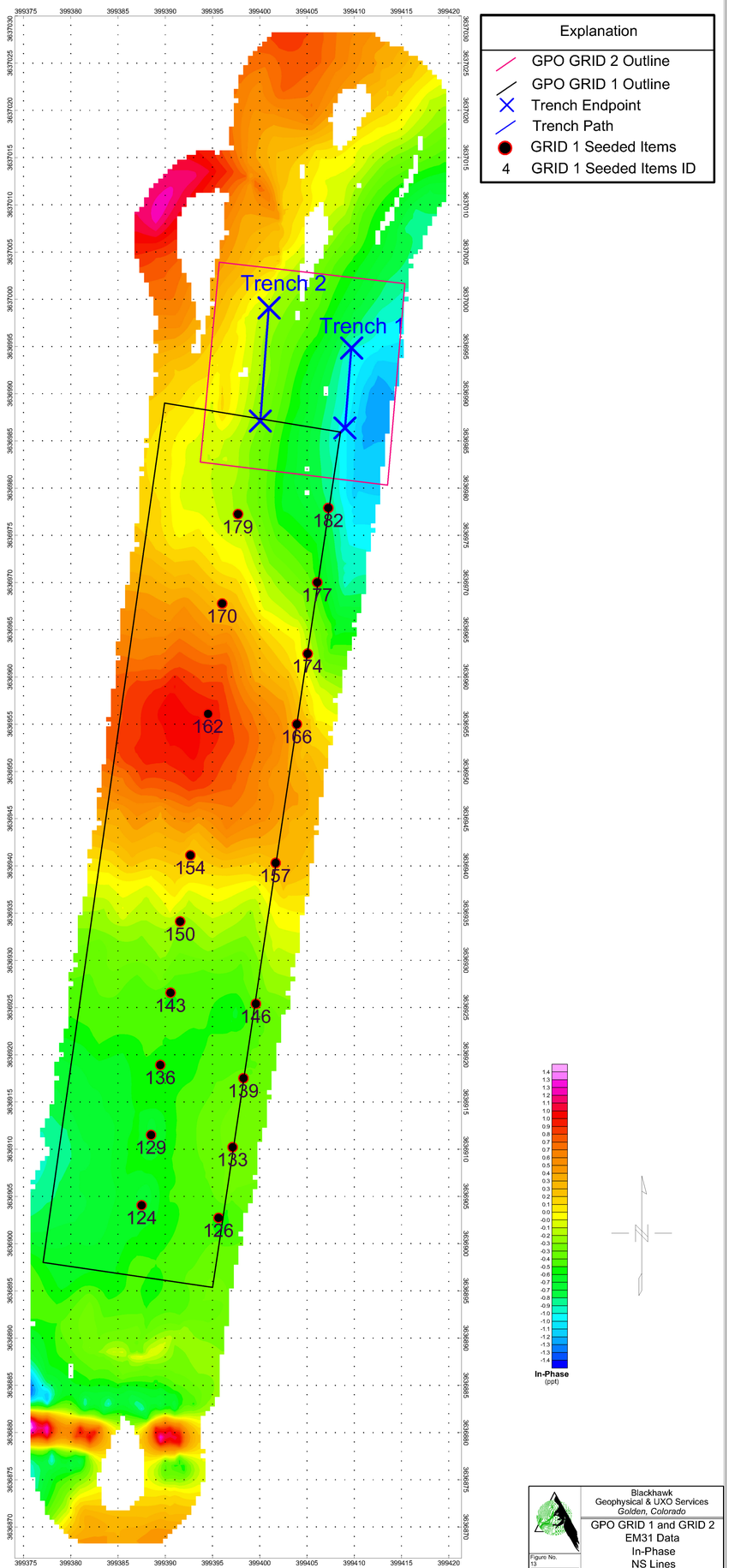
Project No.
0401-008

File
Figures

PM:
J.P.

Date:
5/21/04

Zapata Engineering



Explanation

- GPO GRID 2 Outline
- GPO GRID 1 Outline
- Trench Endpoint
- Trench Path
- GRID 1 Seeded Items
- 4 GRID 1 Seeded Items ID

Scale 1:200

2.5 0 2.5 5 7.5 10 12.5

METERS

NAD 83 UTM Zone 13N

Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1 and GRID 2
EM31 Data
In-Phase
NS Lines

Holloman AFB
New Mexico

Figure No.
13

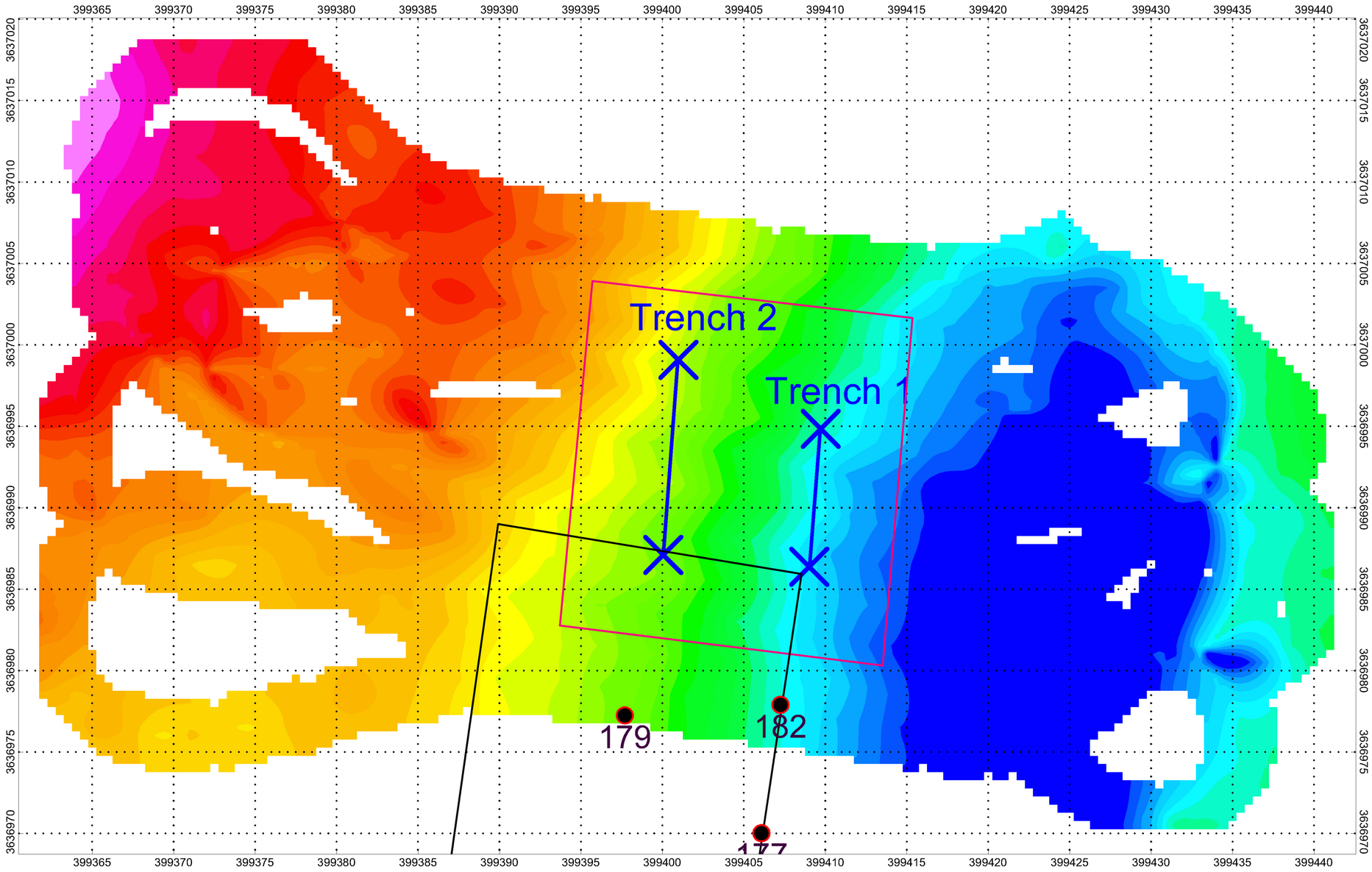
Project No.
0401-008

File:
Figures

PM:
LE

Date:
5/22/04

Zapata Engineering



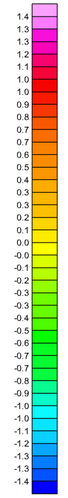
Scale 1:200

2.5 0 2.5 5 7.5 10 12.5 15

metres

NAD 83 UTM Zone 13N

Explanation	
	GPO GRID 2 Outline
	GPO GRID 1 Outline
	Trench Endpoint
	Trench Path
	GRID 1 Seeded Items
4	GRID 1 Seeded Items ID



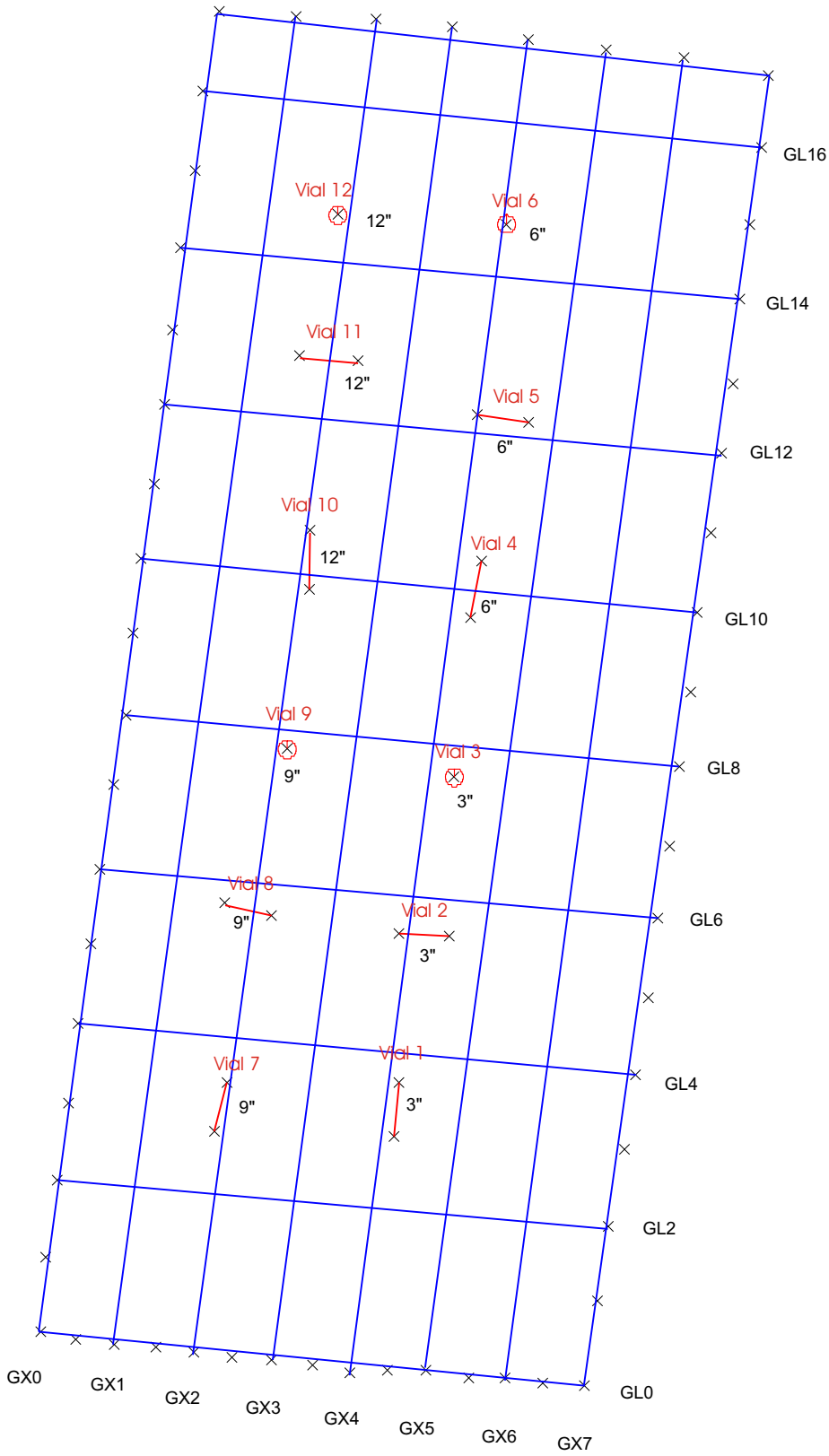
Blackhawk
Geophysical & UXO Services
Golden, Colorado

GPO GRID 1 and GRID 2
EM31 Data
In-Phase
EW Lines

Holloman AFB
New Mexico

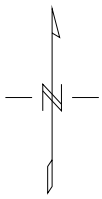
Figure No. *14*
Project No. *0401-008*
File *Figures*
PM: *J.P.*
Date: *5/22/04*

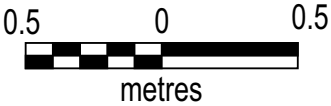
Zapata Engineering



Explanation

GL12	Line Name
x	Line Marker
6″	Depth to Seeded Item
	Seeded Item (North/South Orientation)
	Seeded Item (East/West Orientation)
	Seeded Item (Vertical Orientation)
Vial 1	Seeded Item ID





BLACKHAWK
Geophysical & UXO Services
a division of Blackhawk GeoServices

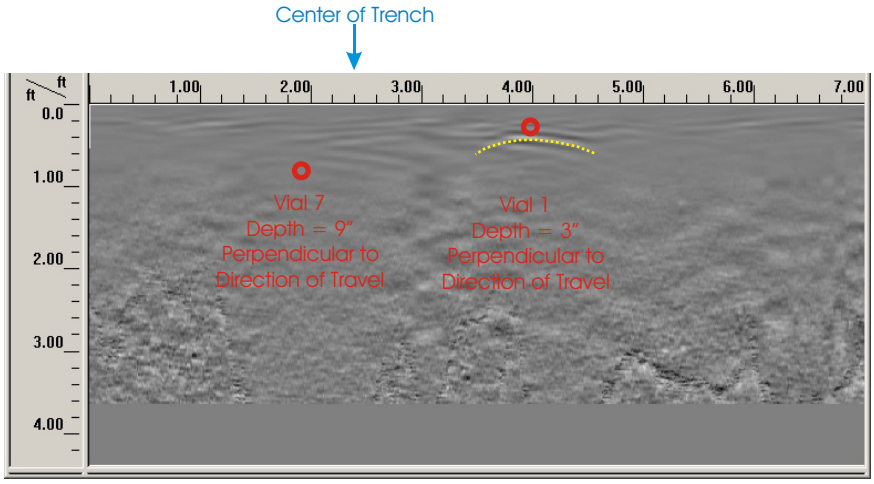
GPO GRID 3 Layout
900 MHz GPR Survey

Holloman Air Force Base
New Mexico

November 2004
Revision 1

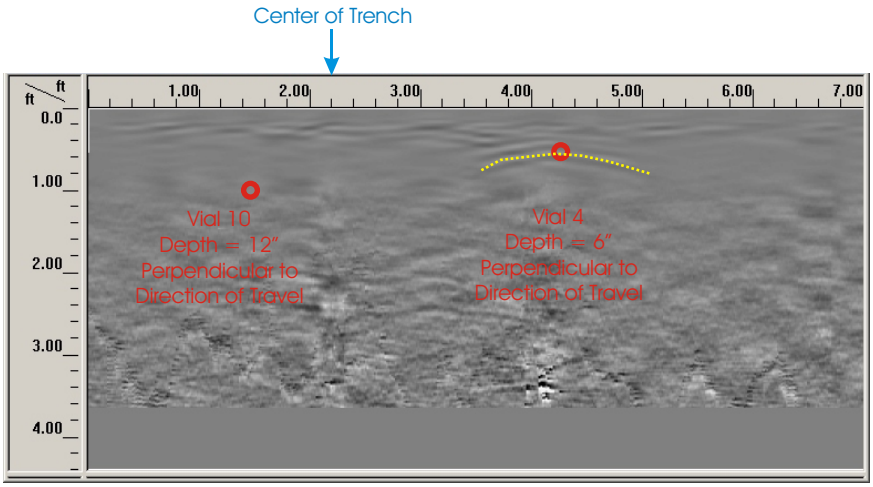
Figure 15	
Project No.	0401.008
File:	Figures
Date:	June 2004

Line 3.5



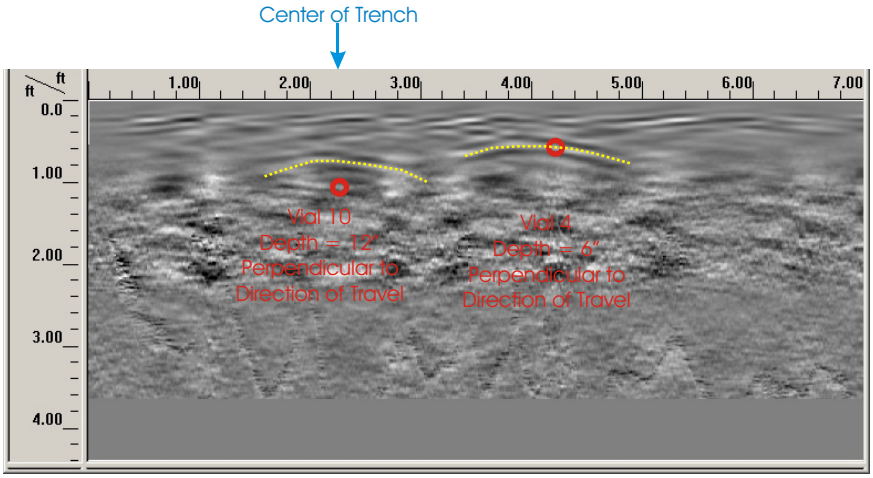
Explanation	
	Selected Anomaly
	Seeded Item
Vial 4	Seeded Item ID

Line 9.5



Note: The seeded items are located 1.5 meters to the north of line 9.5.

Line 10.0



Note: Location of the seeded items are approximate.

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

GPO GRID 3
GPR Data - 900 MHz Antenna - SIR 10B
Anomalies on West to East Lines
Holloman Air Force Base
New Mexico

November 2004
Revision 1

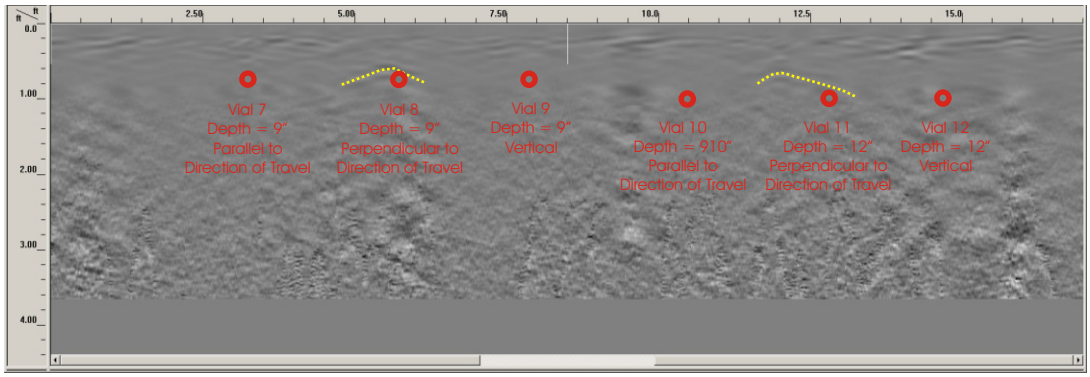
Figure 16

Project No. 0401.008

File: Figures

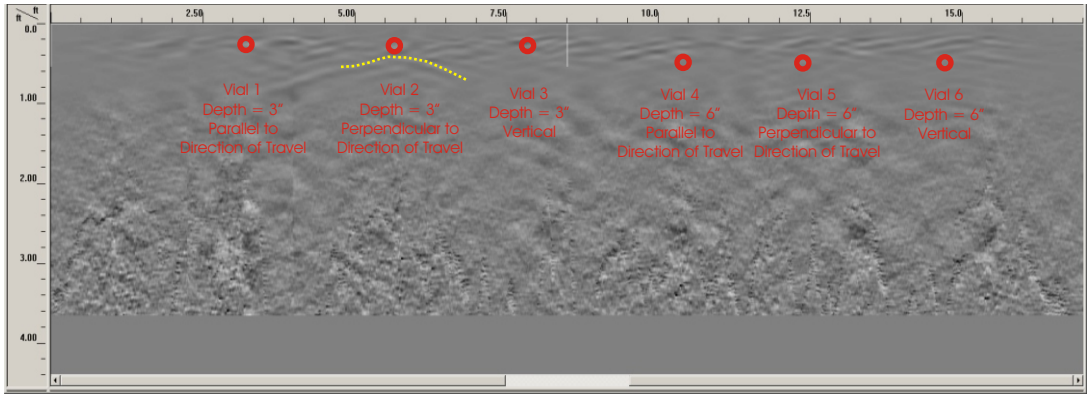
Date: June 2004

Line 1.5



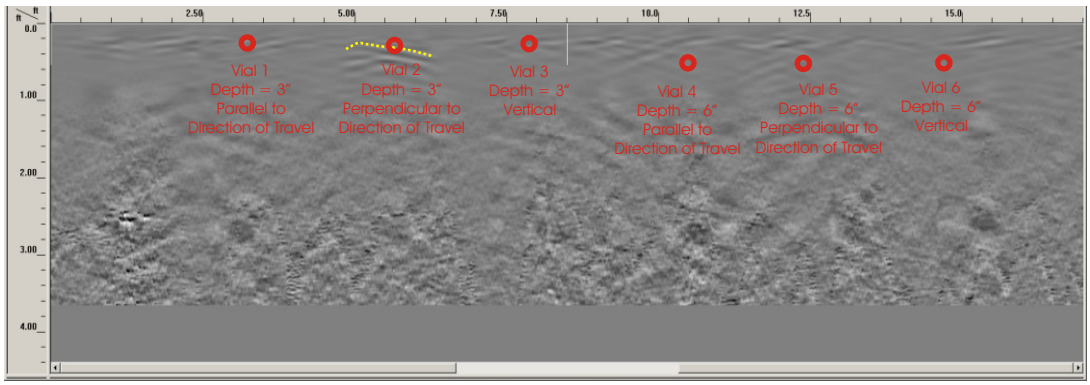
Explanation	
	Selected Anomaly
	Seeded Item
Vial 4	Seeded Item ID

Line 3.5



Note: The seeded items are located .5 to 1 meter to the west of line 3.5.

Line 4.0



Note: Location of the seeded items are approximate.
Note: Profiles run length of trench.

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

GPO GRID 3
GPR Data -900 MHz Antenna - SIR 10B
Anomalies on South to North Lines
Holloman Air Force Base
New Mexico

Figure 17

Project No. 0401.008

File: Figures

Date: June 2004

Attachment B

Photographs

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

Photographs of Seeded Items
Line 30
Seed Items 25N and 50N

Holloman Air Force Base, New Mexico

Photographs - Figure 1

Project No. 0401.008

File: Photos

Date: June 2004

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

Photographs of Seeded Items
Line 30
Seed Items 75N and 100N

Holloman Air Force Base, New Mexico

Photographs - Figure 2

Project No. 0401.008

File: Photos

Date: June 2004

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

Photographs of Seeded Items
Line 30
Seed Items 125N and 150N

Holloman Air Force Base, New Mexico

Photographs - Figure 3

Project No. 0401.008

File: Photos

Date: June 2004

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

Photographs of Seeded Items
Line 30
Seed Items 200N and 237N

Holloman Air Force Base, New Mexico

Photographs - Figure 4

Project No. 0401.008

File: Photos

Date: June 2004

BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Photograph of Seeded Item Line 30 Seed Item 270N Holloman Air Force Base, New Mexico	Photographs - Figure 5
		Project No. 0401.008
		File: Photos
		Date: June 2004

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

Photographs of Seeded Items
Line 60
Seed Items 25N and 50N

Holloman Air Force Base, New Mexico

Photographs - Figure 6	
Project No.	0401.008
File:	Photos
Date:	June 2004

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

Photographs of Seeded Items
Line 60
Seed Items 75N and 100N

Holloman Air Force Base, New Mexico

Photographs - Figure 7

Project No. 0401.008

File: Photos

Date: June 2004

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

Photographs of Seeded Items
Line 60
Seed Items 150N and 200N

Holloman Air Force Base, New Mexico

Photographs - Figure 8

Project No. 0401.008

File: Photos

Date: June 2004

BLACKHAWK
Geophysical & UXO Services
a division of
Blackhawk GeoServices

Photographs of Seeded Items
Line 60
Seed Items 225N and 250N

Holloman Air Force Base, New Mexico

Photographs - Figure 9

Project No. 0401.008

File: Photos

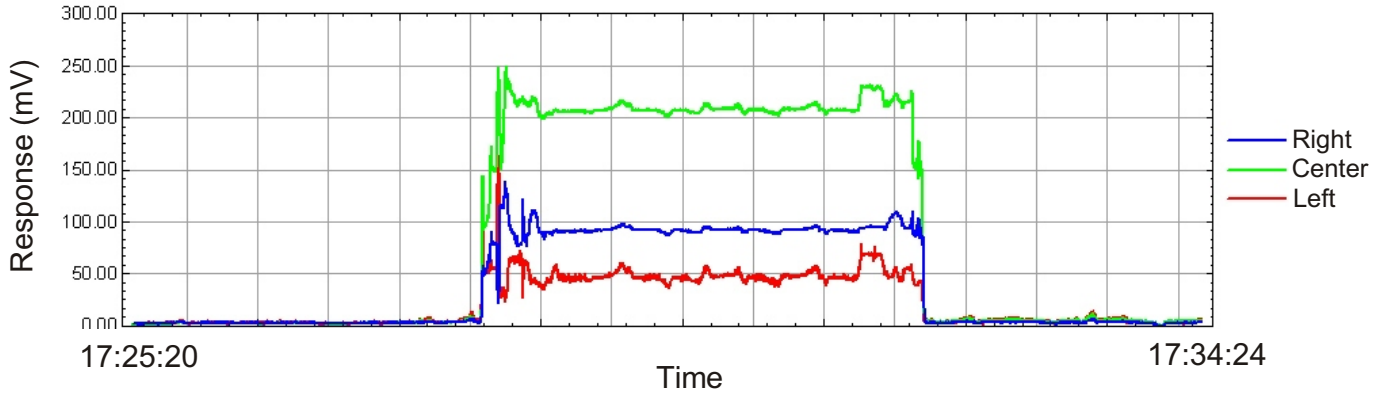
Date: June 2004

BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Photographs of Seeded Items Line 60 Seed Item 275N Holloman Air Force Base, New Mexico	Photographs - Figure 10
		Project No. 0401.008
		File: Photos
		Date: June 2004

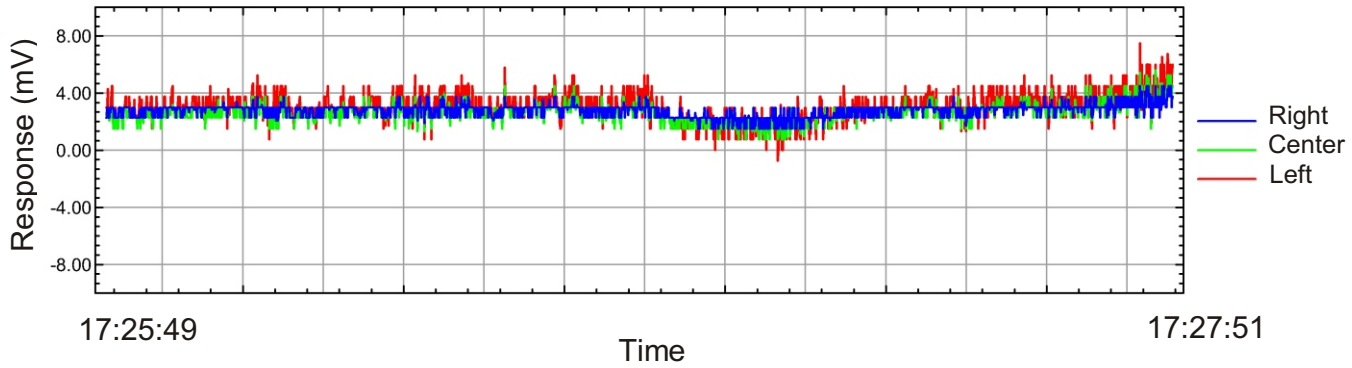
Attachment C

Profiles

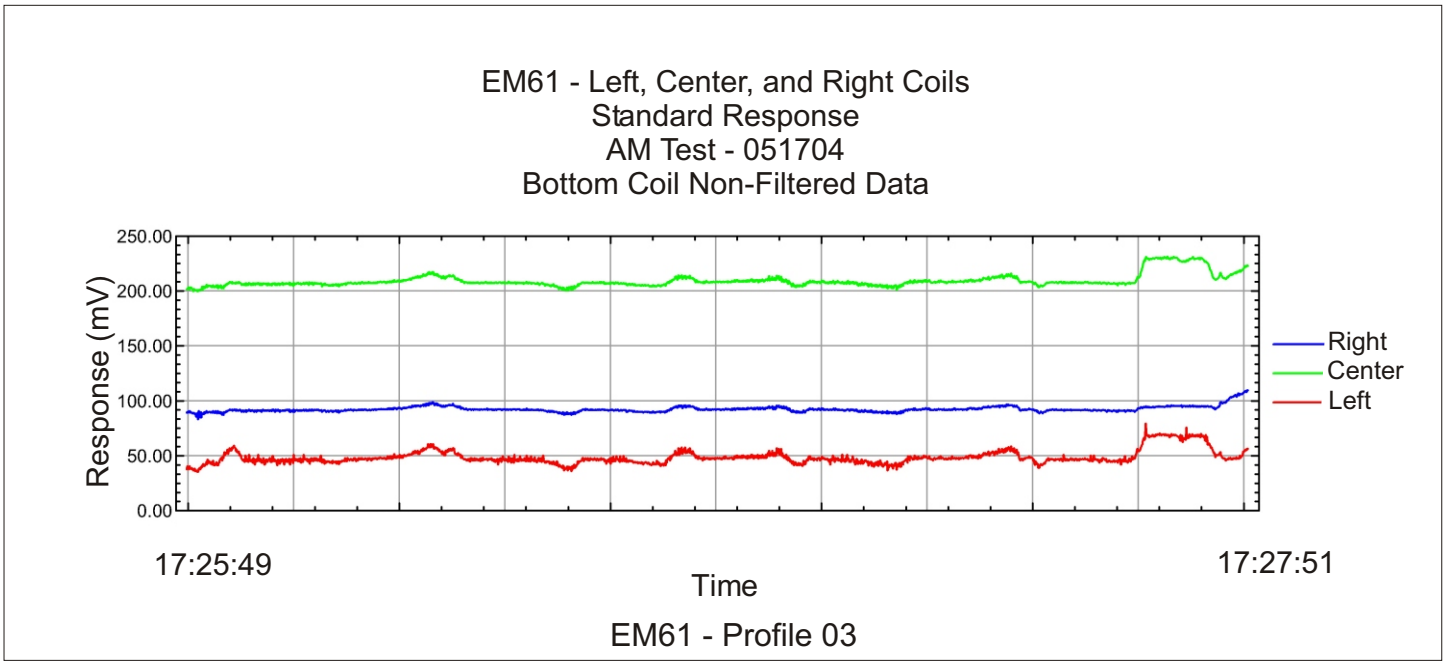
MTADS EM61 Profiles

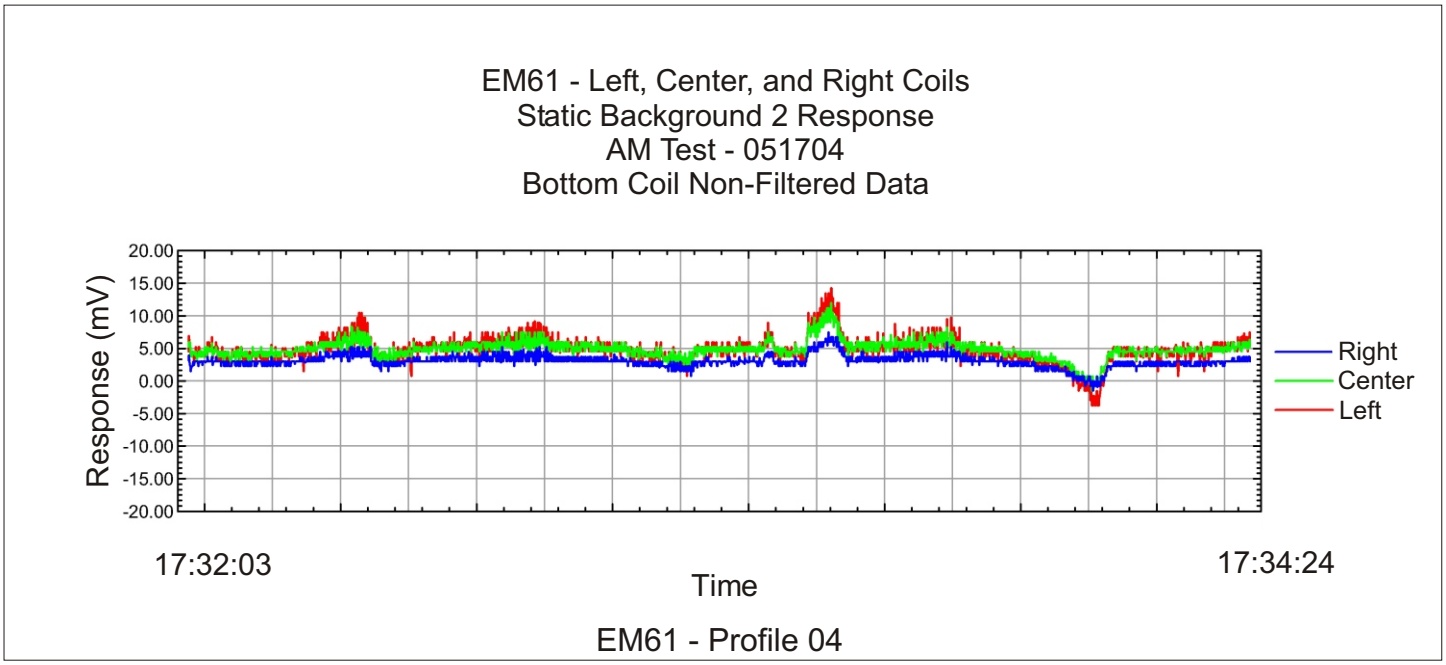


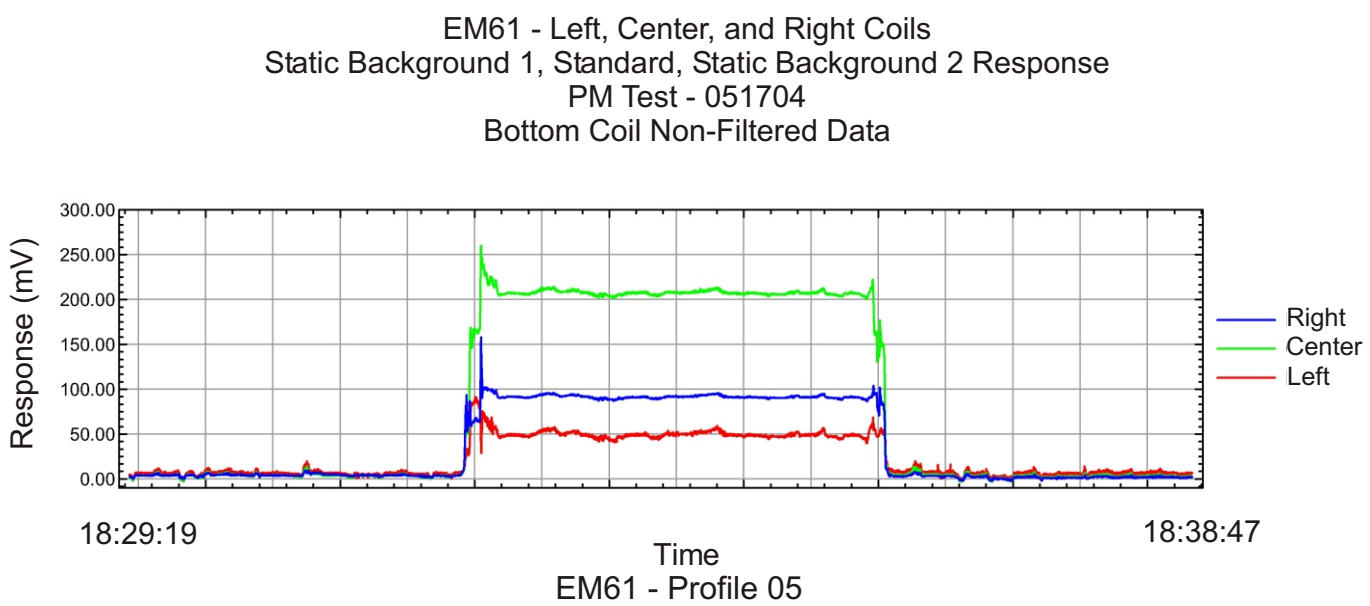
EM61 - Profile 01



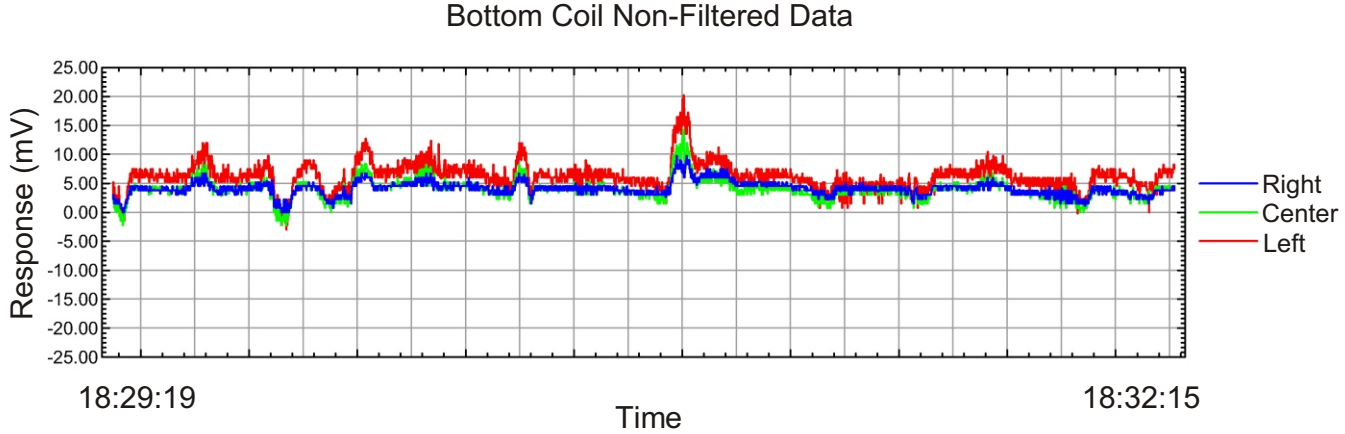
EM61 - Profile 02


EM61 - Left, Center, and Right Coils
Standard Response
AM Test - 051704
Bottom Coil Non-Filtered Data
Response (mV)
250.00
200.00
150.00
100.00
50.00
0.00
Right
Center
Left
17:25:49
17:27:51
Time
EM61 - Profile 03

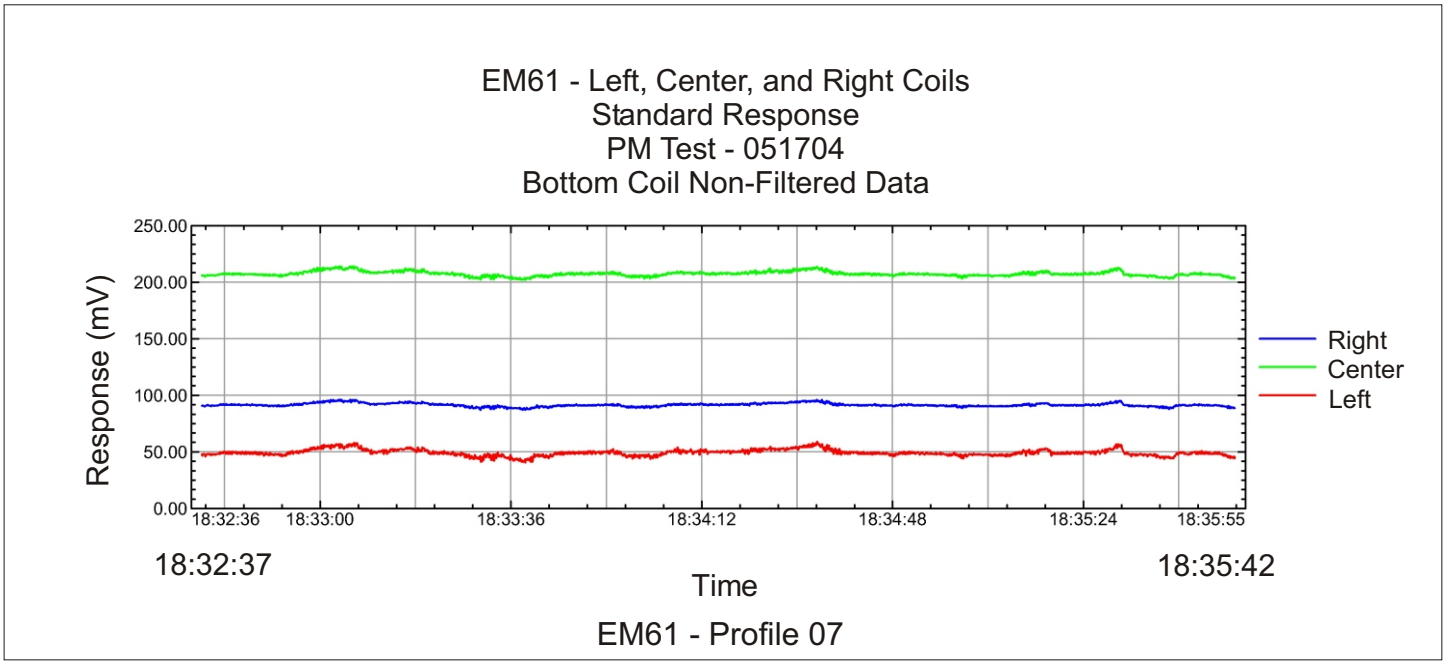

EM61 - Left, Center, and Right Coils
Static Background 2 Response
AM Test - 051704
Bottom Coil Non-Filtered Data
Response (mV)
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
Right
Center
Left
17:32:03
17:34:24
Time
EM61 - Profile 04

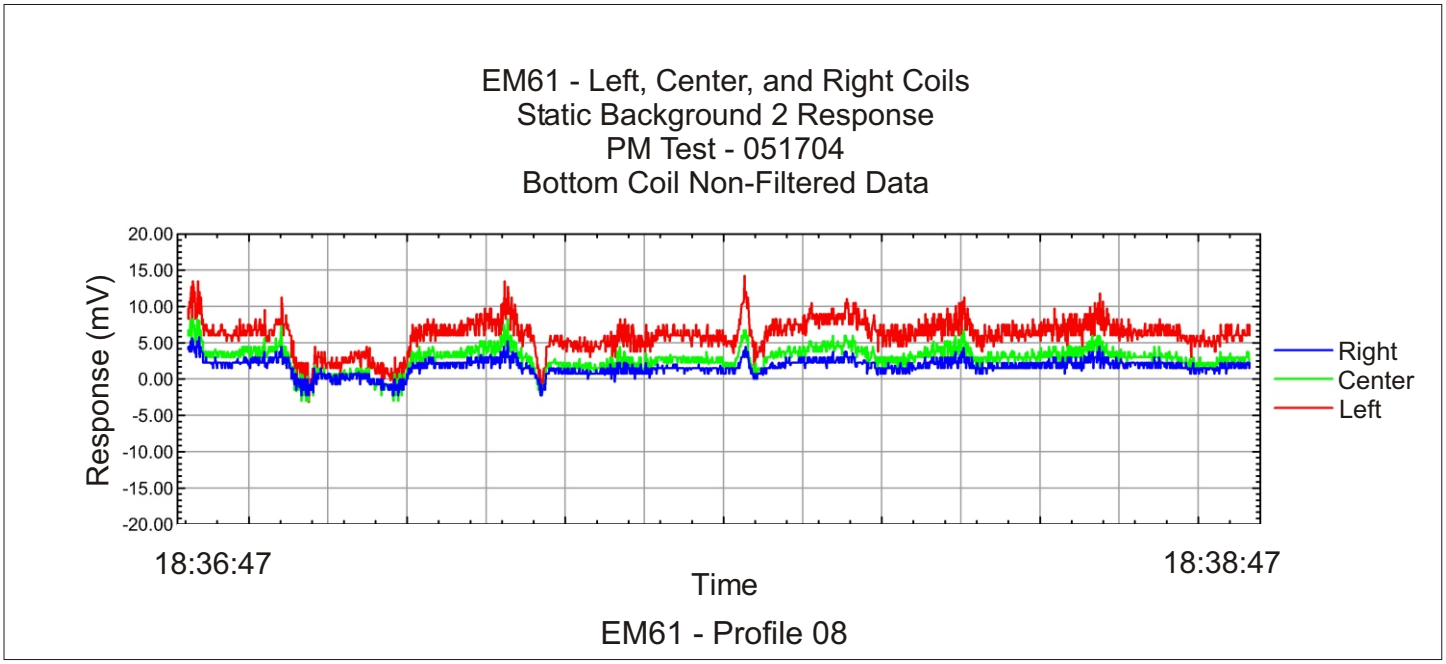


EM61 - Profile 05

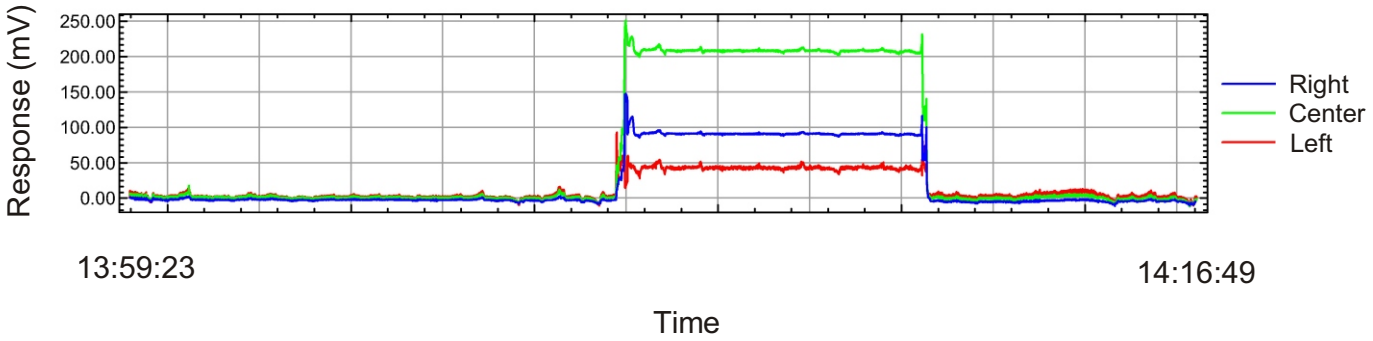


EM61 - Profile 06


EM61 - Left, Center, and Right Coils
Standard Response
PM Test - 051704
Bottom Coil Non-Filtered Data
Response (mV)
250.00
200.00
150.00
100.00
50.00
0.00
18:32:36
18:33:00
18:33:36
18:34:12
18:34:48
18:35:24
18:35:55
Right
Center
Left
18:32:37
18:35:42
Time
EM61 - Profile 07

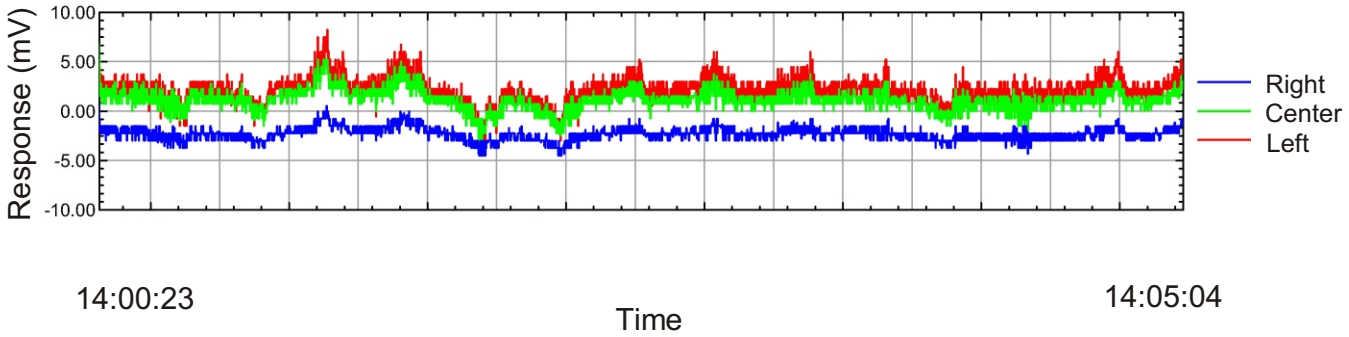

EM61 - Left, Center, and Right Coils
Static Background 2 Response
PM Test - 051704
Bottom Coil Non-Filtered Data
Response (mV)
20.00
15.00
10.00
5.00
0.00
-5.00
-10.00
-15.00
-20.00
Right
Center
Left
18:36:47
18:38:47
Time
EM61 - Profile 08

EM61 - Left, Center, and Right Coils
Static Background 1, Standard, Static Background 2 Response
AM Test - 052104
Bottom Coil Non-Filtered Data

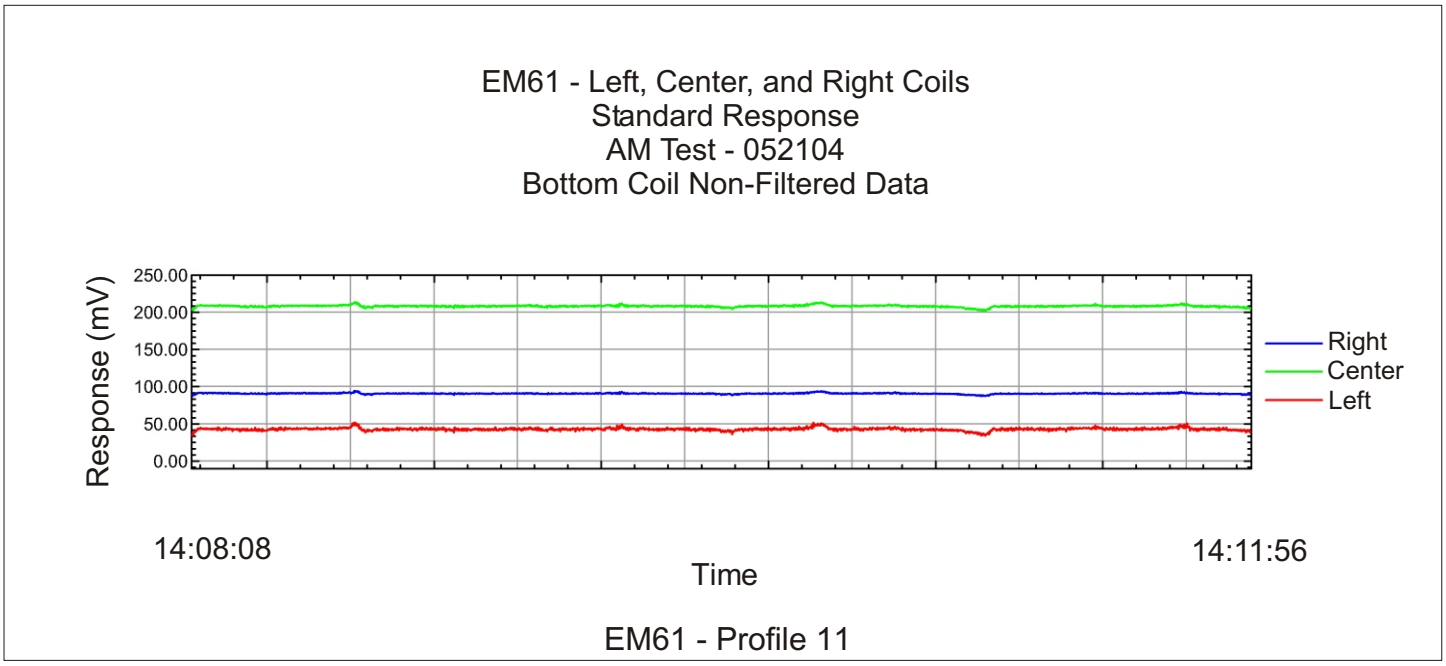


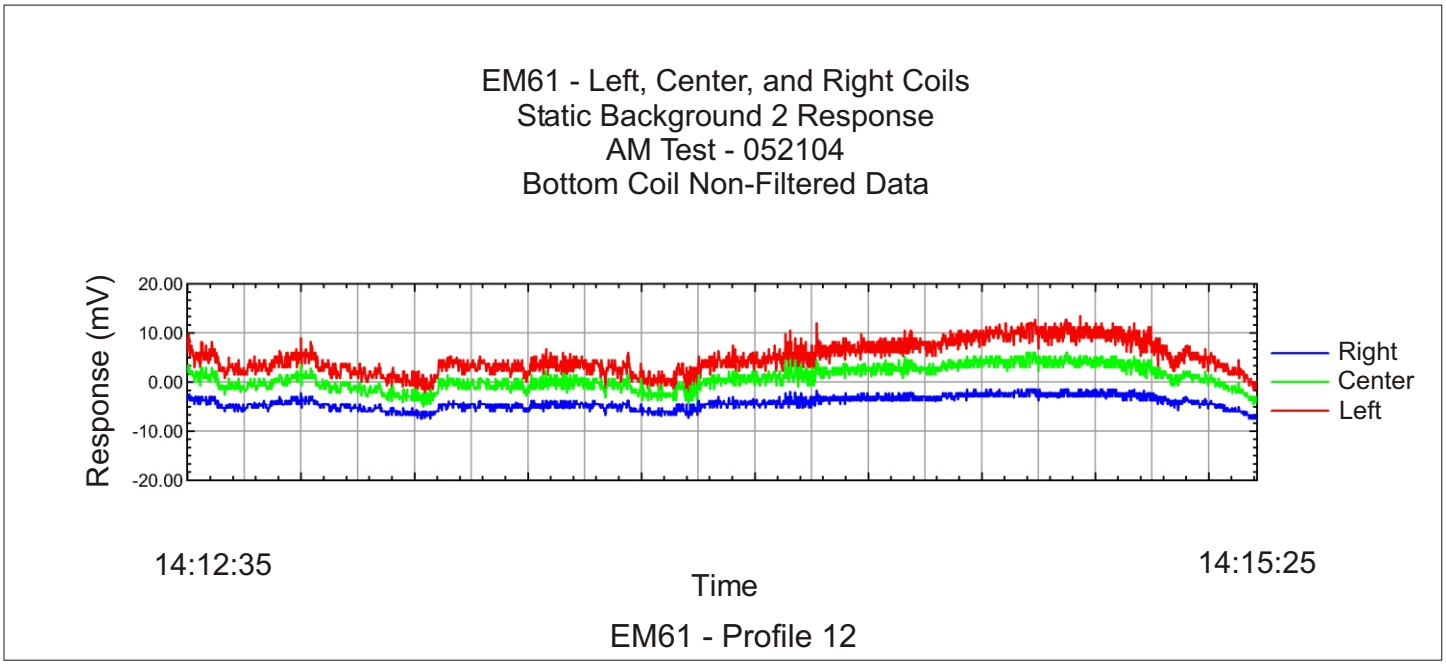
EM61 - Profile 09

EM61 - Left, Center, and Right Coils
Static Background 1 Response
AM Test - 052104
Bottom Coil Non-Filtered Data

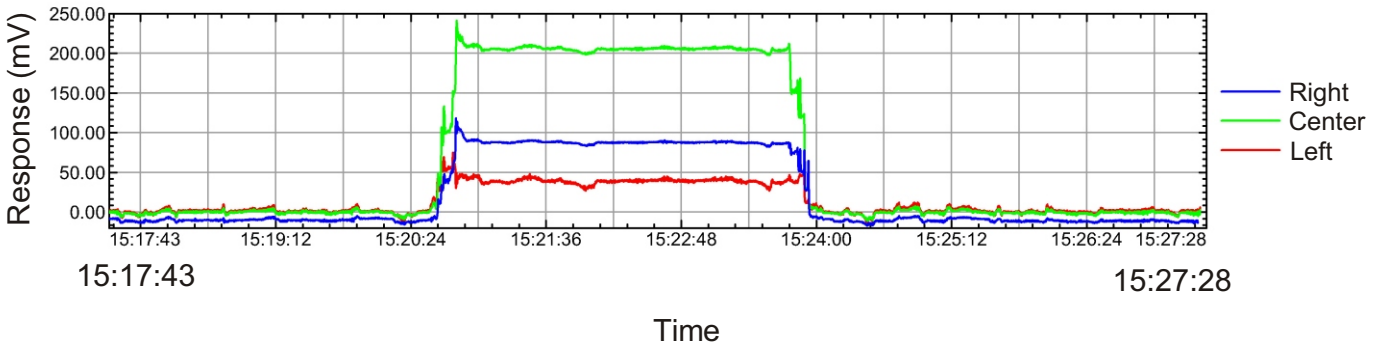


EM61 - Profile 10


EM61 - Left, Center, and Right Coils
Standard Response
AM Test - 052104
Bottom Coil Non-Filtered Data
Response (mV)
250.00
200.00
150.00
100.00
50.00
0.00
Right
Center
Left
14:08:08
14:11:56
Time
EM61 - Profile 11


EM61 - Left, Center, and Right Coils
Static Background 2 Response
AM Test - 052104
Bottom Coil Non-Filtered Data
Response (mV)
20.00
10.00
0.00
-10.00
-20.00
Right
Center
Left
14:12:35
14:15:25
Time
EM61 - Profile 12

EM61 - Left, Center, and Right Coils
Static Background 1, Standard, Static Background 2 Response
PM Test - 052104
Bottom Coil Non-Filtered Data

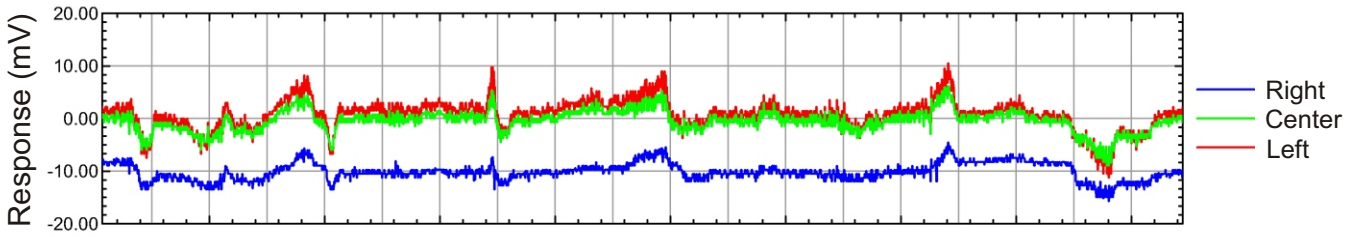


15:17:43 15:27:28

Time

EM61 - Profile 13

EM61 - Left, Center, and Right Coils
Static Background 1 Response
PM Test - 052104
Bottom Coil Non-Filtered Data

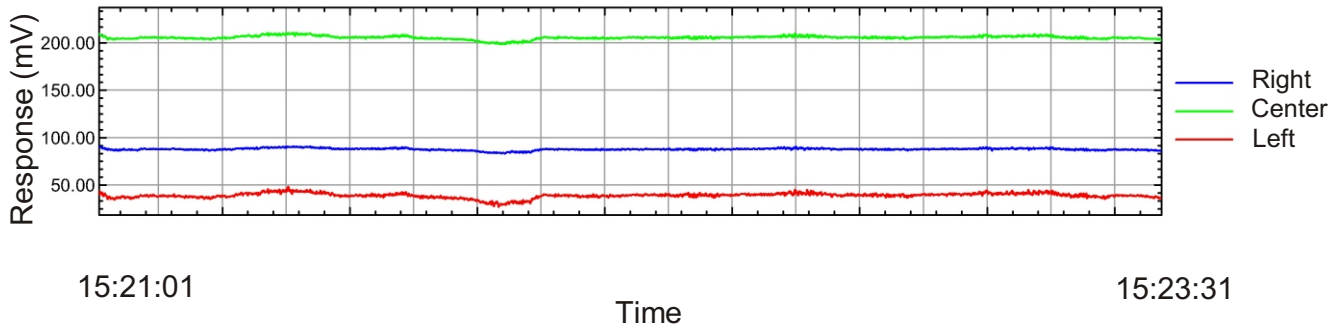


15:17:45 15:20:32

Time

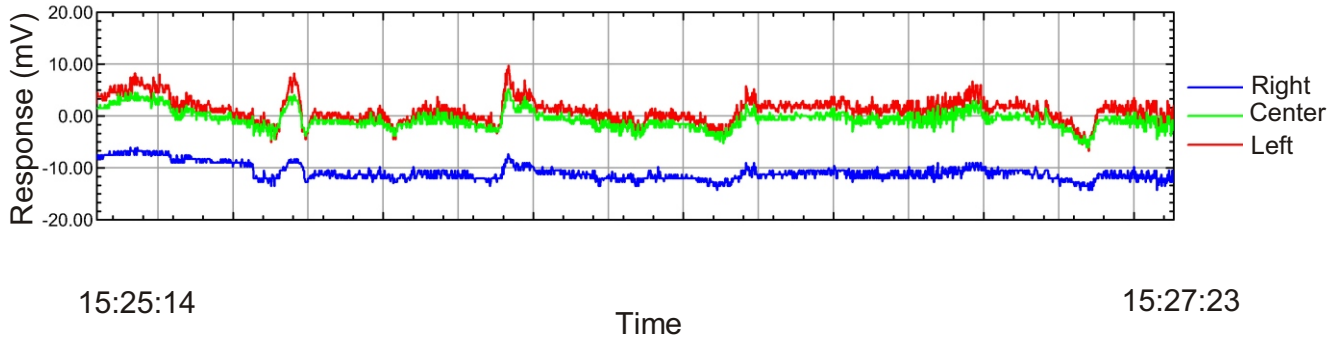
EM61 - Profile 14

EM61 - Left, Center, and Right Coils
Standard Response
PM Test - 052104
Bottom Coil Non-Filtered Data



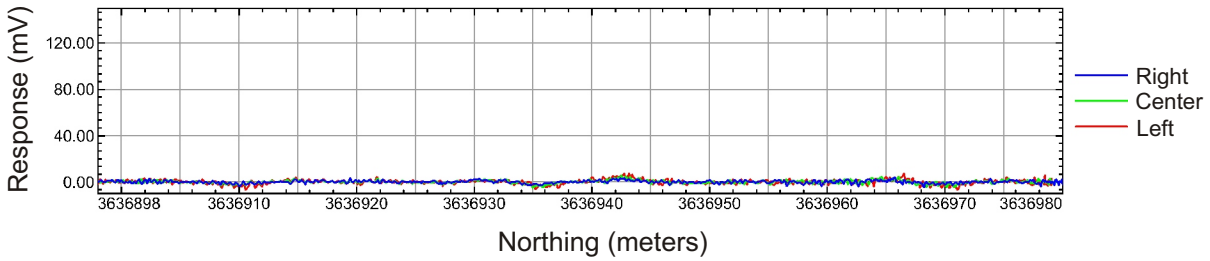
EM61 - Profile 15

EM61 - Left, Center, and Right Coils
Static Background 2 Response
PM Test - 052104
Bottom Coil Non-Filtered Data



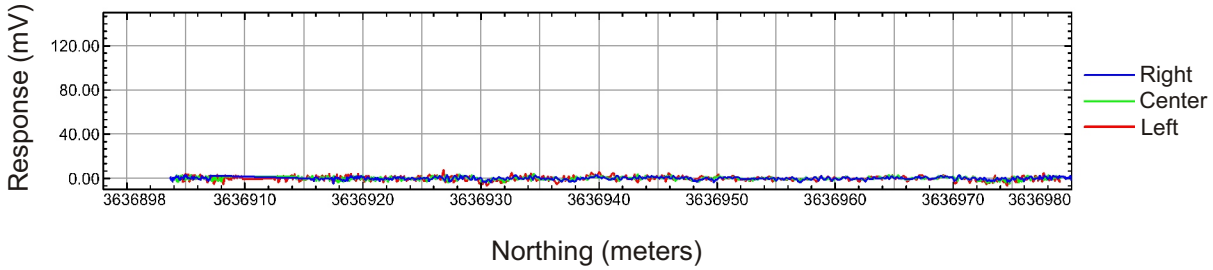
EM61 - Profile 16

EM61 - Left, Center, and Right Coils
Six Line Test - Line 1
Normal Walking Speed - No Seeded Item
051704
Bottom Coil Filtered Data



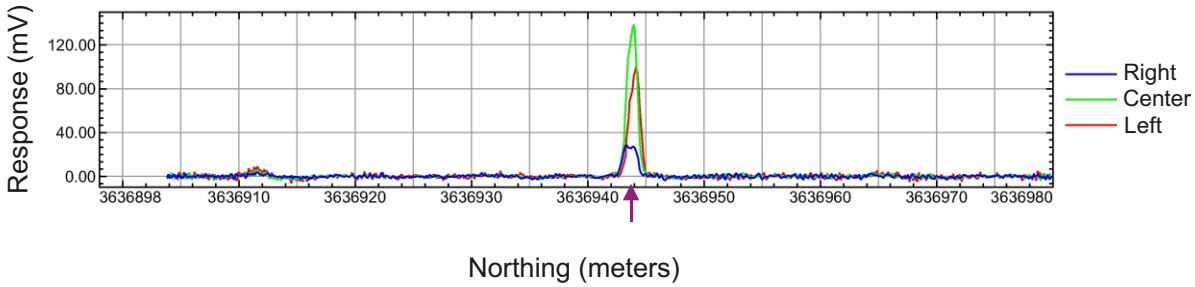
EM61 - Profile 17

EM61 - Left, Center, and Right Coils
Six Line Test - Line 2
Normal Walking Speed - No Seeded Item
051704
Bottom Coil Filtered Data



EM61 - Profile 18

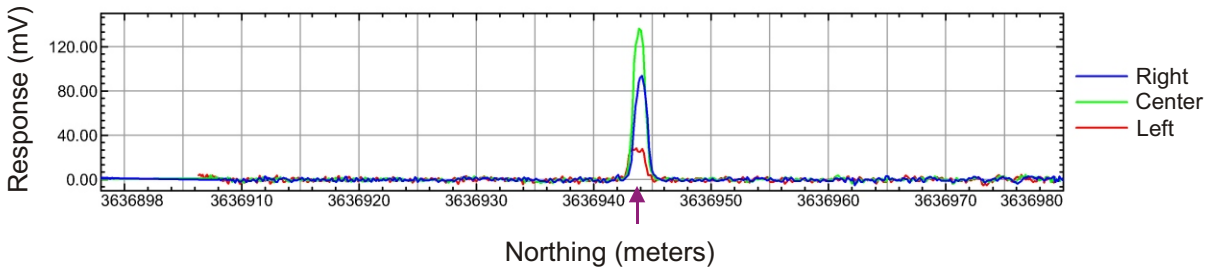
EM61 - Left, Center, and Right Coils
Six Line Test - Line 3
Normal Walking Speed - Seeded Item
051704
Bottom Coil Filtered Data



↑ = Seeded Item (Northing = 3636943.83)

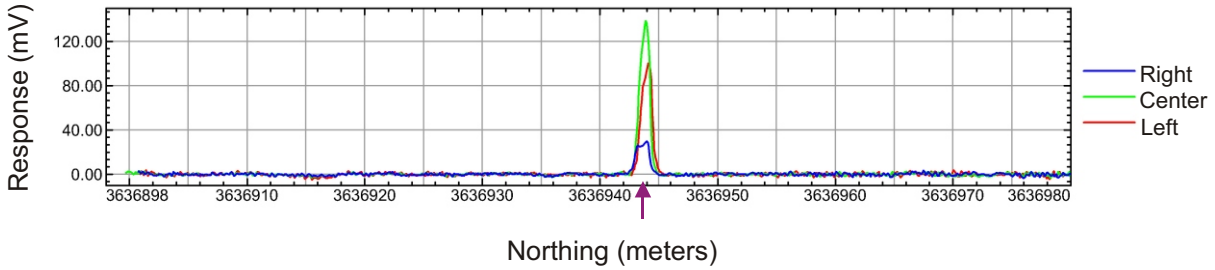
EM61 - Profile 19

EM61 - Left, Center, and Right Coils
Six Line Test - Line 4
Normal Walking Speed - Seeded Item
051704
Bottom Coil Filtered Data



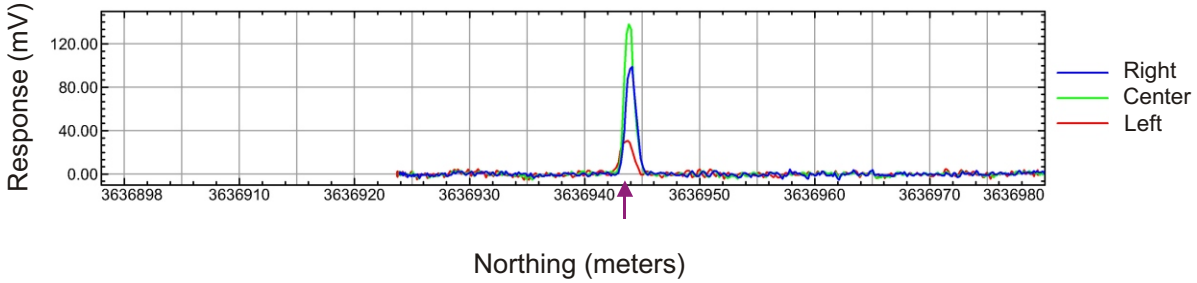
= Seeded Item (Northing = 3636943.83) EM61 - Profile 20

EM61 - Left, Center, and Right Coils
Six Line Test - Line 5
Slow Walking Speed - Seeded Item
051704
Bottom Coil Filtered Data



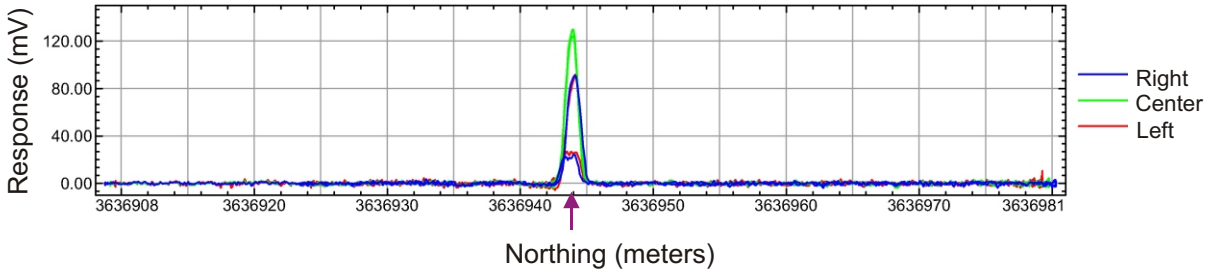
= Seeded Item (Northing = 3636943.83) EM61 - Profile 21

EM61 - Left, Center, and Right Coils
Six Line Test - Line 6
Fast Walking Speed - Seeded Item
051704
Bottom Coil Filtered Data



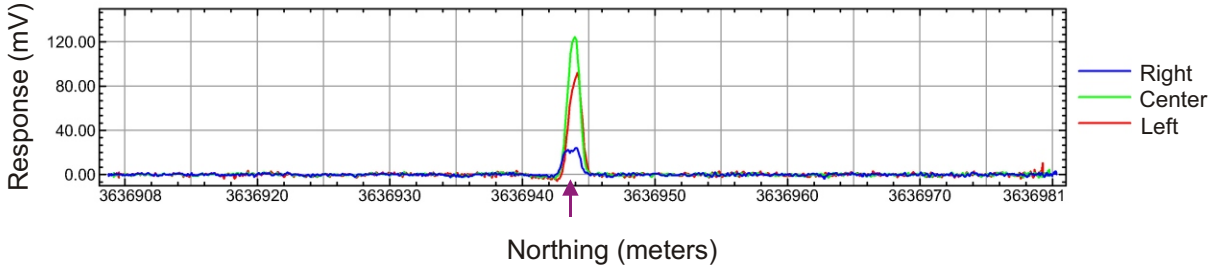
= Seeded Item (Northing = 3636943.83) EM61 - Profile 22

EM61 - Left, Center, and Right Coils
Latency Response - Line 1 and Line 2
AM Test - 051704
Bottom Coil Filtered Data



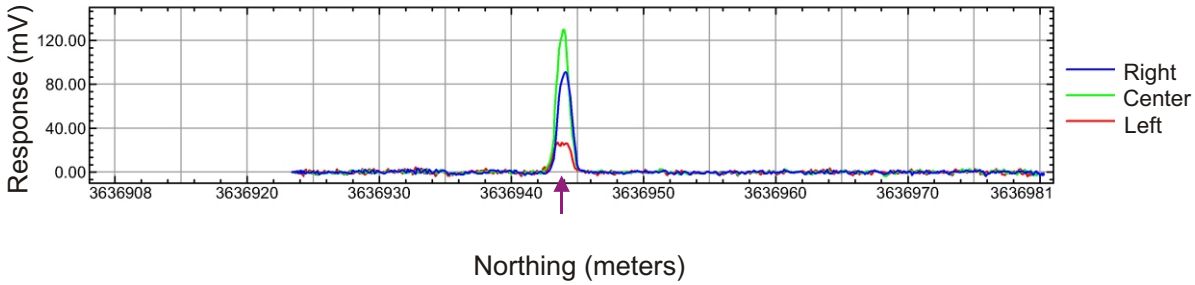
= Seeded Item (Northing = 3636943.83) EM61 - Profile 23

EM61 - Left, Center, and Right Coils
Latency Response - Line 1
AM Test - 051704
Bottom Coil Filtered Data



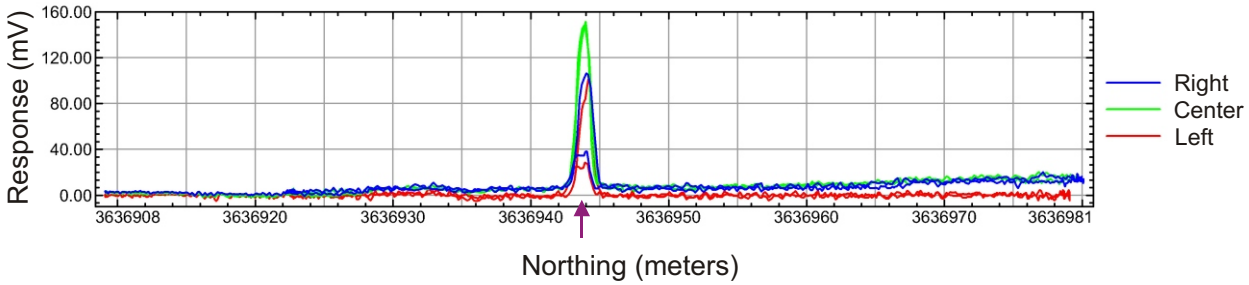
= Seeded Item (Northing = 3636943.83) EM31 - Profile 24

EM61 - Left, Center, and Right Coils
Latency Response - Line 2
AM Test - 051704
Bottom Coil Filtered Data



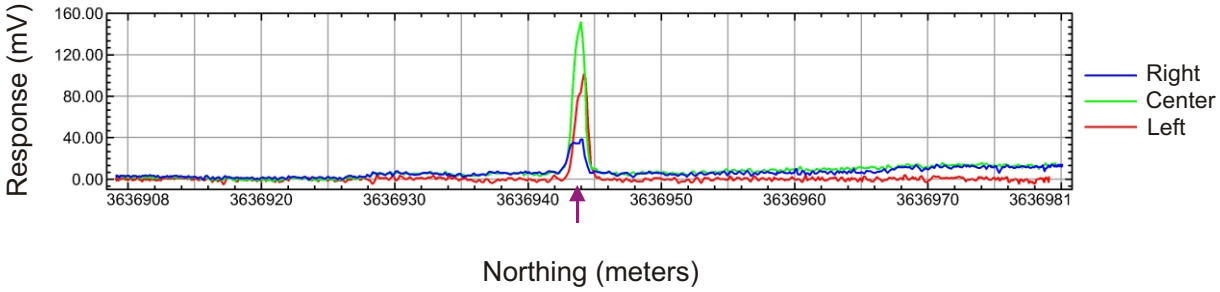
= Seeded Item (Northing = 3636943.83) EM61 - Profile 25

EM61 - Left, Center, and Right Coils
Latency Response - Line 1 and Line 2
PM Test - 051704
Bottom Coil Filtered Data



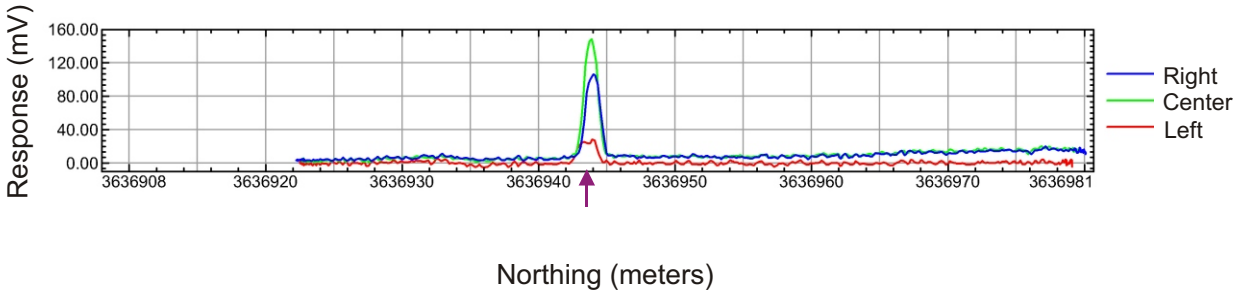
= Seeded Item (Northing = 3636943.83) EM61 - Profile 26

EM61 - Left, Center, and Right Coils
Latency Response - Line 1
PM Test - 051704
Bottom Coil Filtered Data



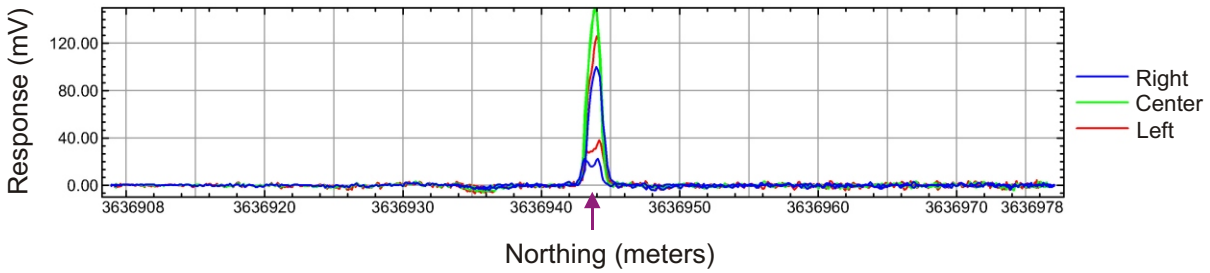
= Seeded Item (Northing = 3636943.83) EM61 - Profile 27

EM61 - Left, Center, and Right Coils
Latency Response - Line 2
PM Test - 051704
Bottom Coil Filtered Data



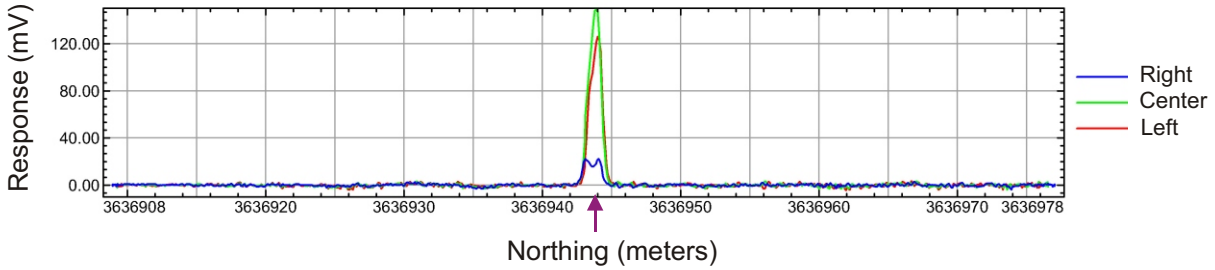
= Seeded Item (Northing = 3636943.83) EM61 - Profile 28

EM61 - Left, Center, and Right Coils
Latency Response - Line 1 and Line 2
AM Test - 052104
Bottom Coil Filtered Data



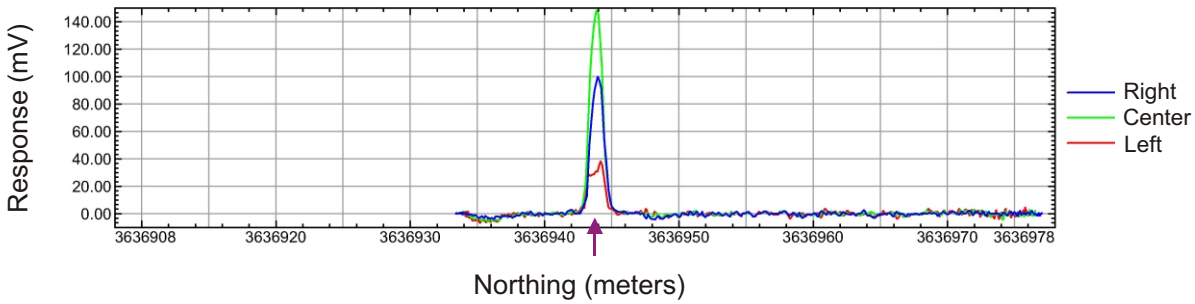
= Seeded Item (Northing = 3636943.83) EM61 - Profile 29

EM61 - Left, Center, and Right Coils
Latency Response - Line 1
AM Test - 052104
Bottom Coil Filtered Data



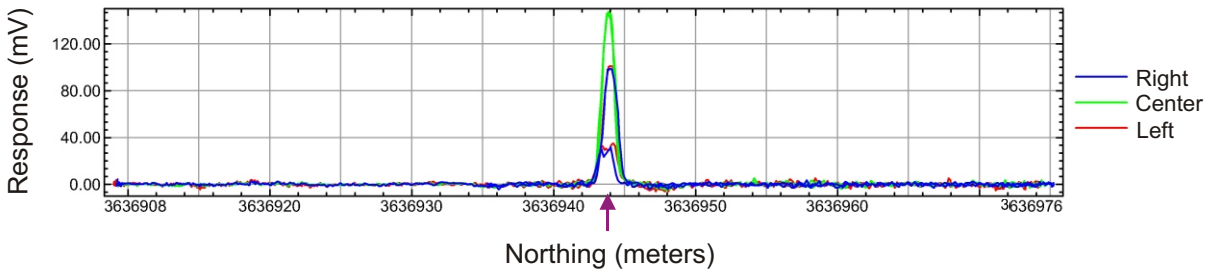
= Seeded Item (Northing = 3636943.83) EM61 - Profile 30

EM61 - Left, Center, and Right Coils
Latency Response - Line 2
AM Test - 052104
Bottom Coil Filtered Data



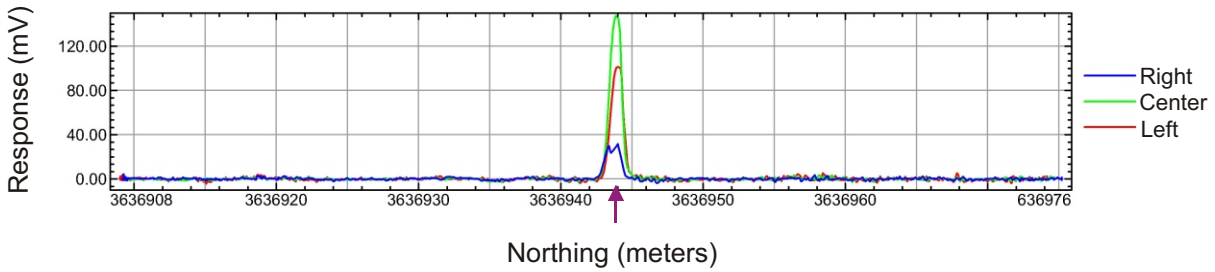
= Seeded Item (Northing = 3636943.83) EM61 - Profile 31

EM61 - Left, Center, and Right Coils
Latency Response - Line 1 and Line 2
PM Test - 052104
Bottom Coil Filtered Data



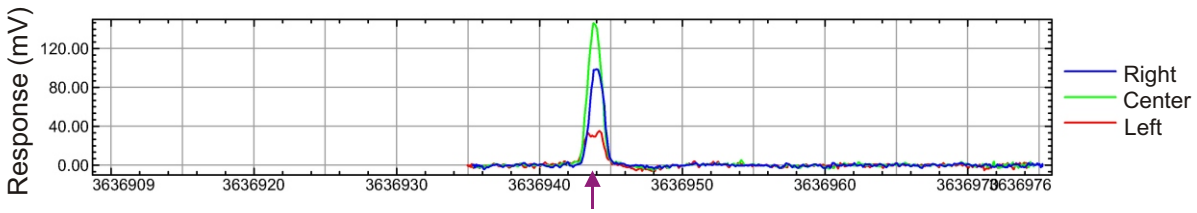
= Seeded Item (Northing = 3636943.83) EM61 - Profile 32

EM61 - Left, Center, and Right Coils
Latency Response - Line 1
PM Test - 052104
Bottom Coil Filtered Data

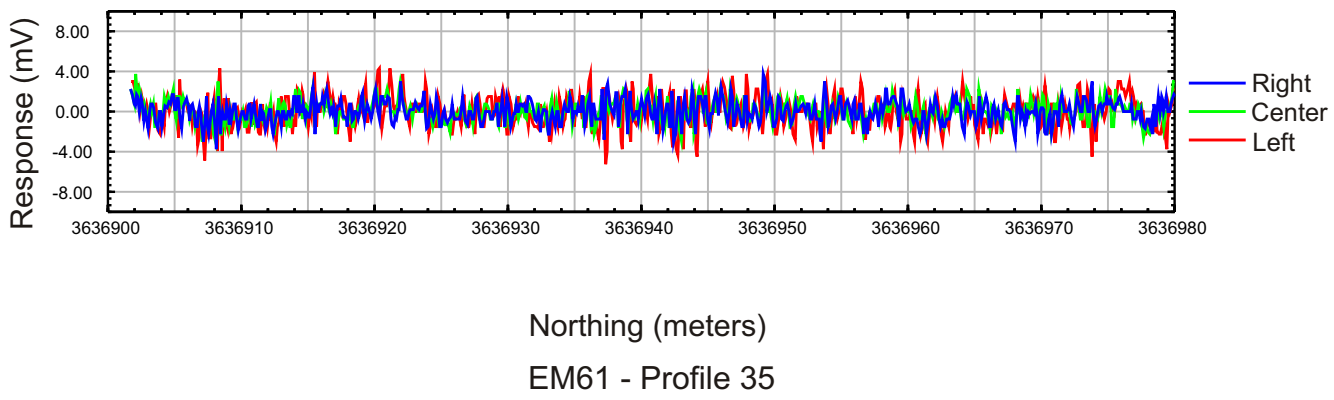


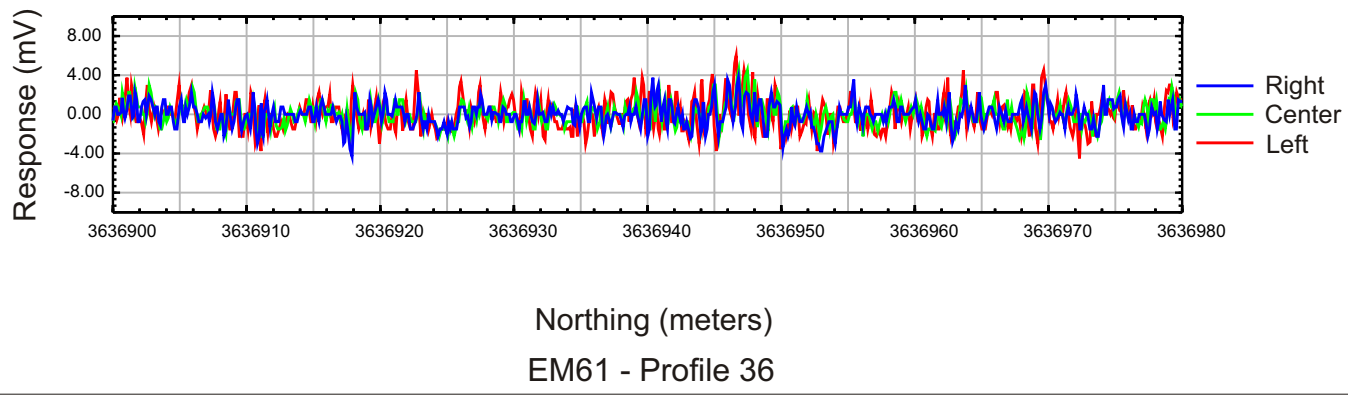
= Seeded Item (Northing = 3636943.83) EM61 - Profile 33

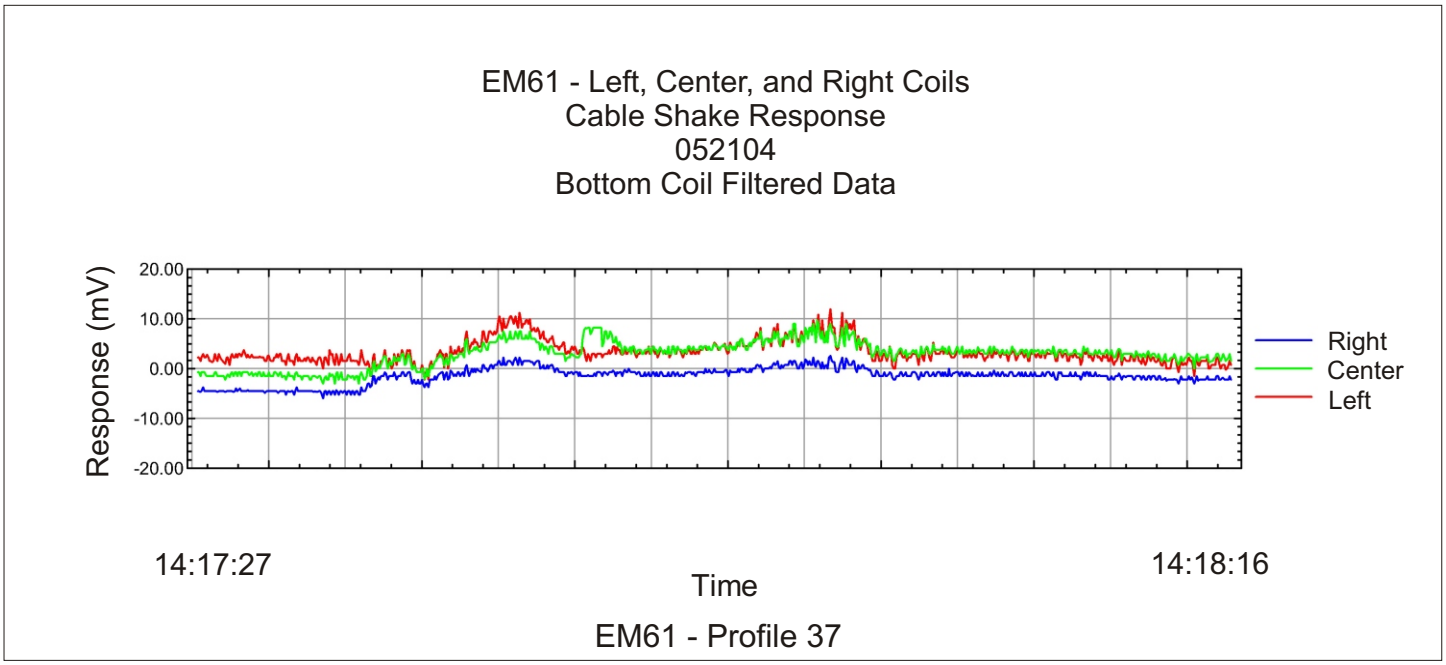
EM61 - Left, Center, and Right Coils
Latency Response - Line 2
PM Test - 052104
Bottom Coil Filtered Data

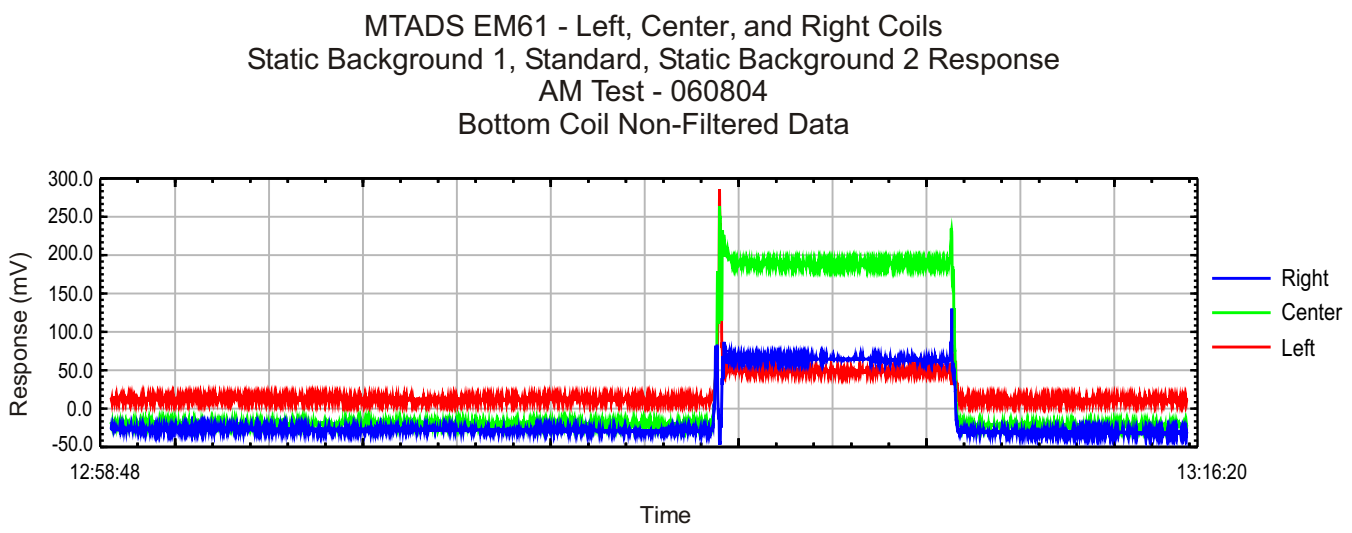


= Seeded Item (Northing = 3636943.83) EM61 - Profile 34

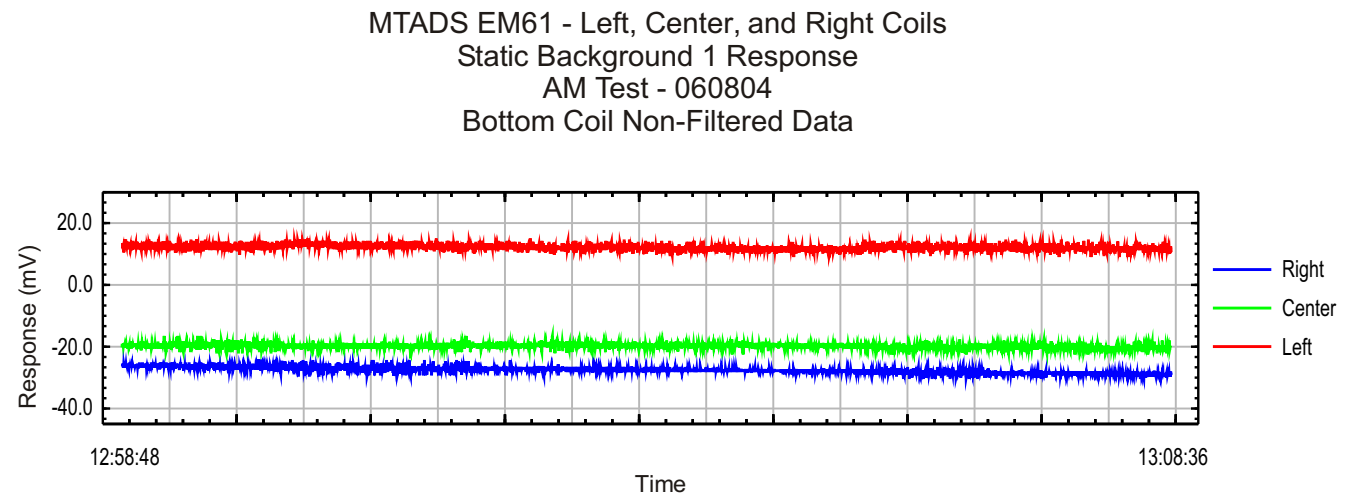

EM61 - Left, Center, and Right Coils
Repeat Line Test
AM Test - 051704
Bottom Coil Filtered Data
Response (mV)
8.00
4.00
0.00
-4.00
-8.00
3636900
3636910
3636920
3636930
3636940
3636950
3636960
3636970
3636980
Right
Center
Left
Northing (meters)
EM61 - Profile 35


EM61 - Left, Center, and Right Coils
Repeat Line Test
PM Test - 051704
Bottom Coil Filtered Data
Response (mV)
8.00
4.00
0.00
-4.00
-8.00
3636900
3636910
3636920
3636930
3636940
3636950
3636960
3636970
3636980
Right
Center
Left
Northing (meters)
EM61 - Profile 36

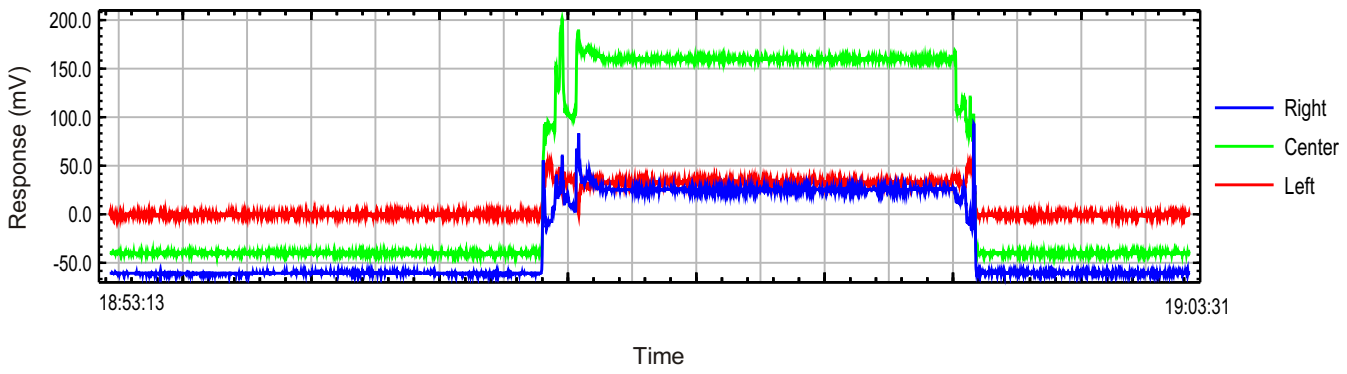

EM61 - Left, Center, and Right Coils
Cable Shake Response
052104
Bottom Coil Filtered Data
Response (mV)
20.00
10.00
0.00
-10.00
-20.00
Right
Center
Left
14:17:27
14:18:16
Time
EM61 - Profile 37



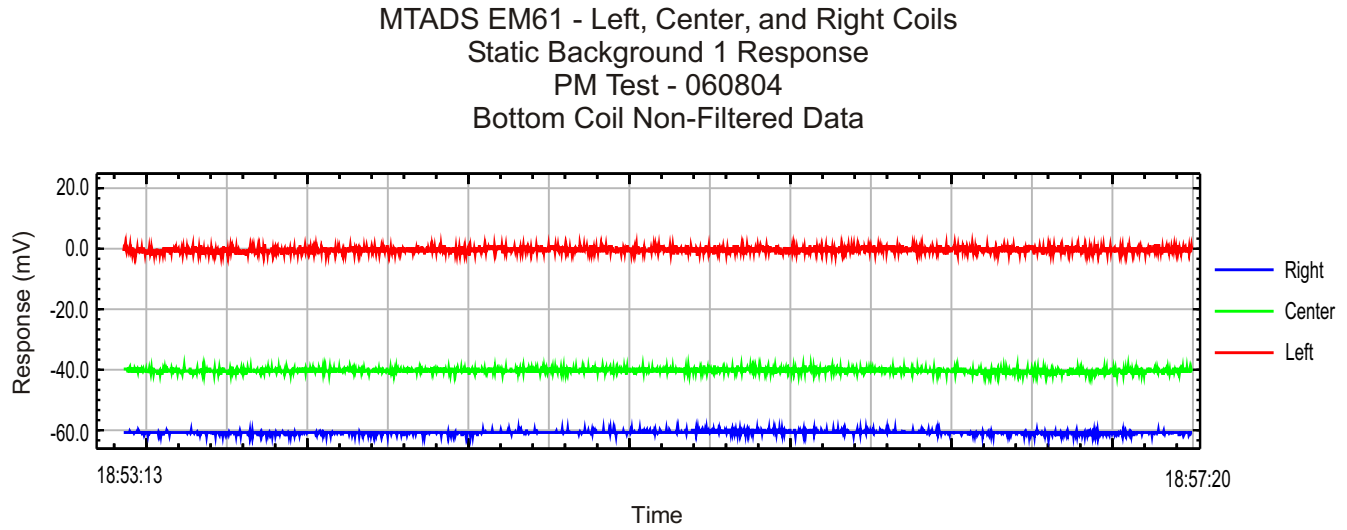
MTADS EM61 - Profile 38



MTADS EM61 - Profile 39

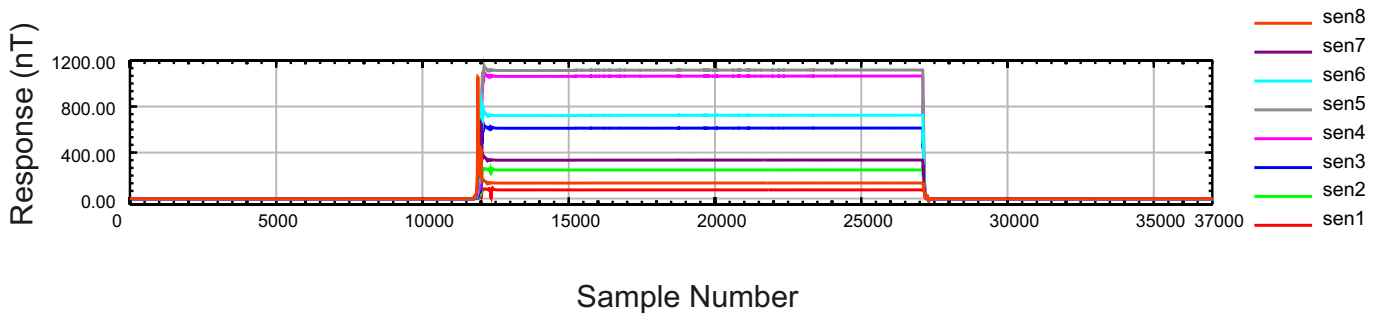


MTADS EM61 - Profile 40

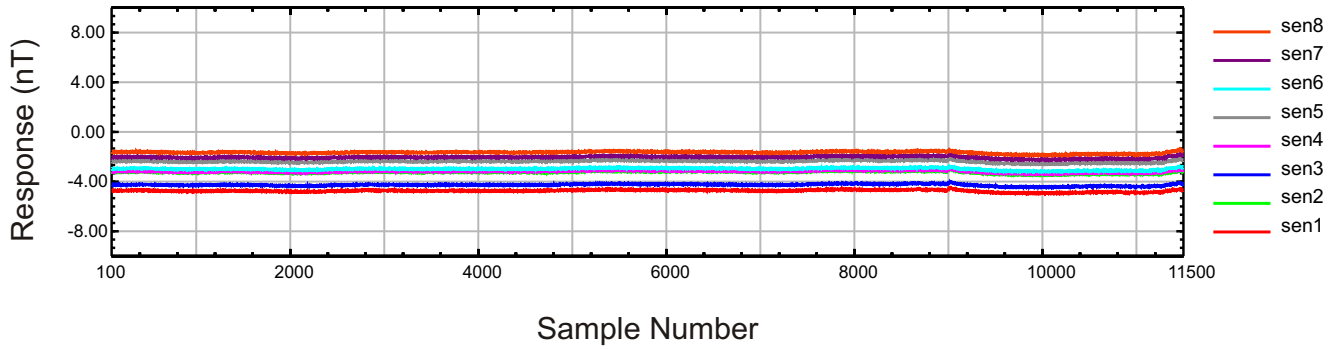


MTADS EM61 - Profile 41

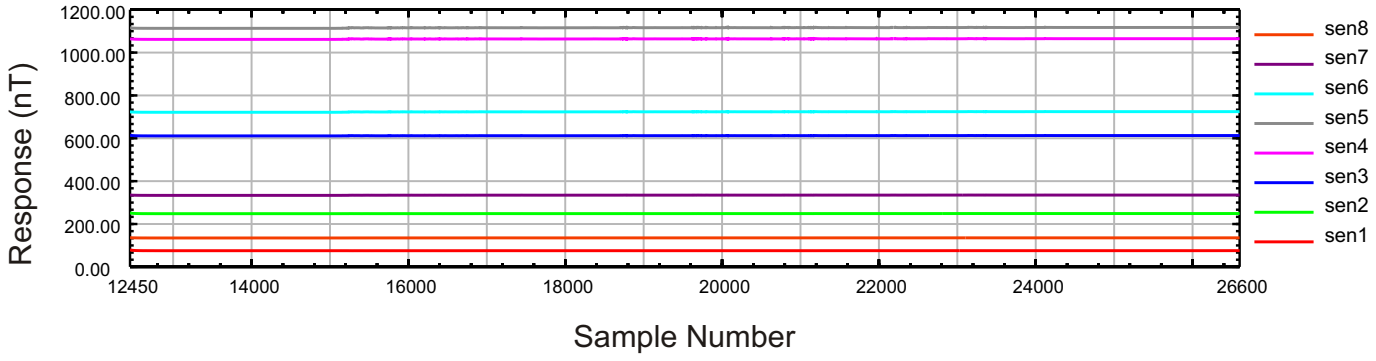
MTADS MAG Profiles



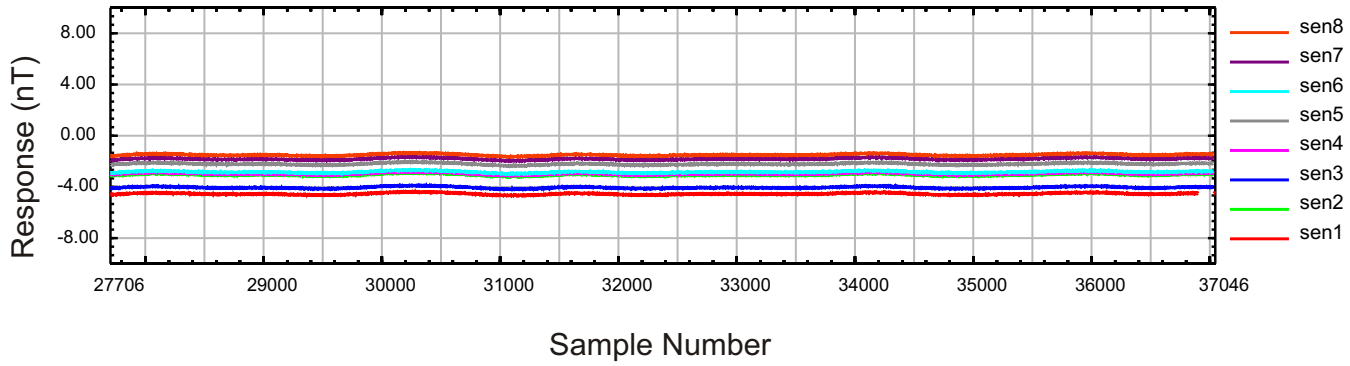
Mag Profile 01



Mag Profile 02

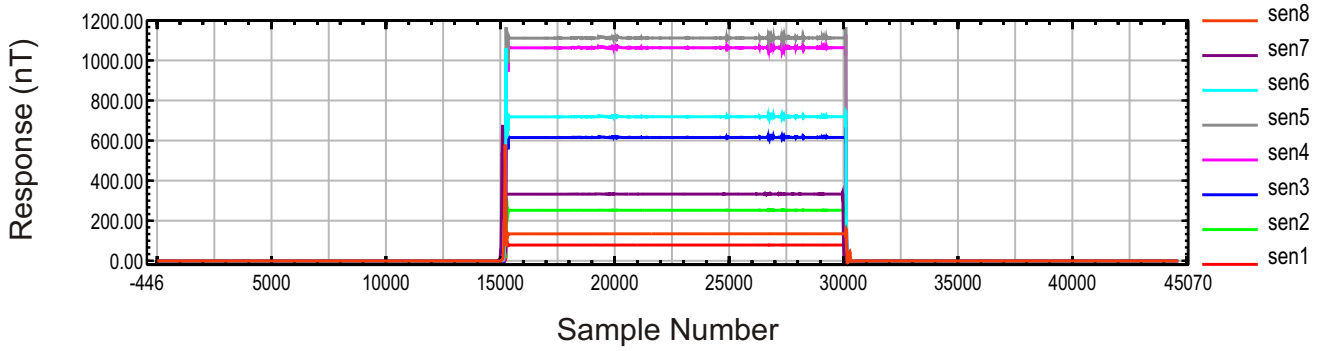


Mag Profile 03



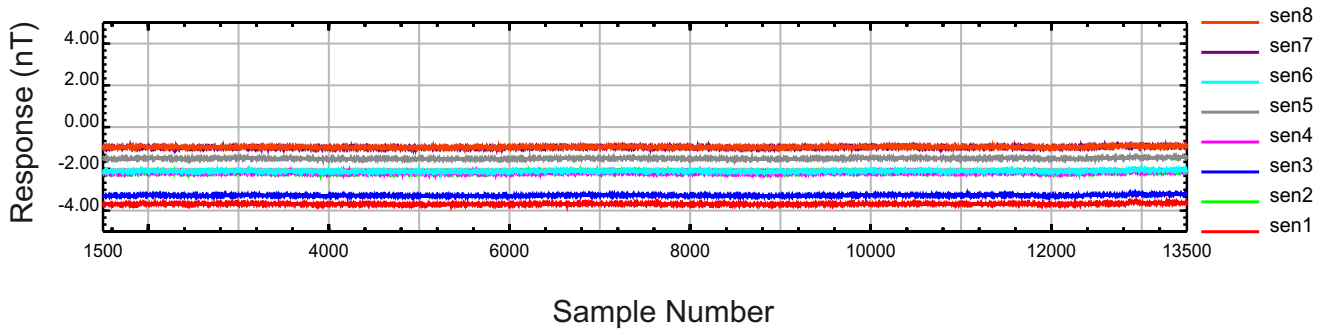
Mag Profile 04

MTADS MAG - Eight Sensor Array
Static Background 1, Standard, Static Background 2 Response
PM Test - 052104
Non-Filtered Data

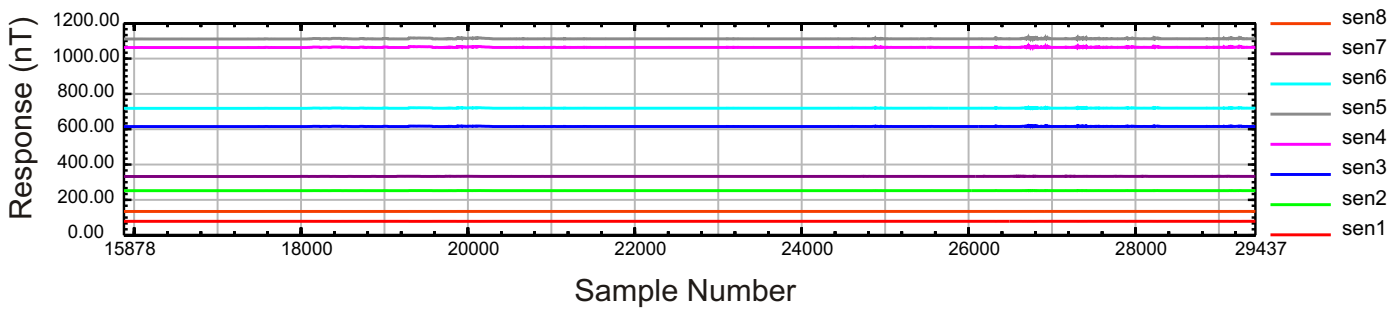


Mag Profile 05

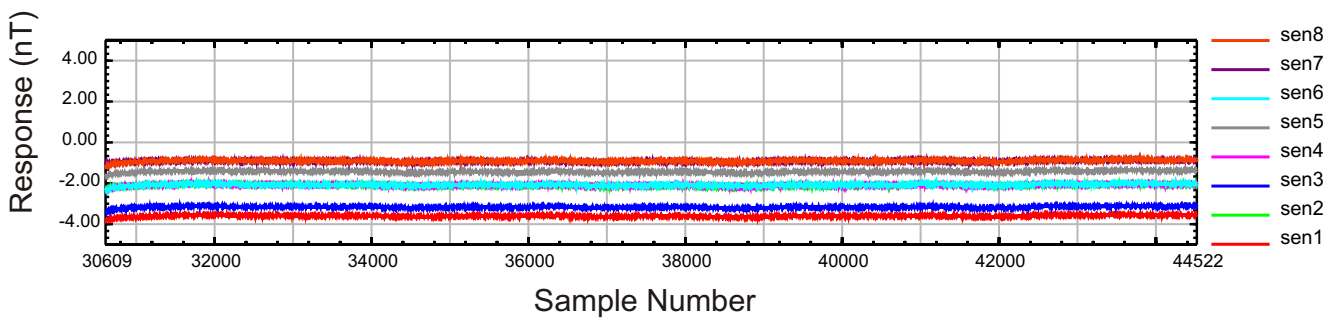
MTADS MAG - Eight Sensor Array
Static Background 1 Response
AM Test - 052104
Non-Filtered Data



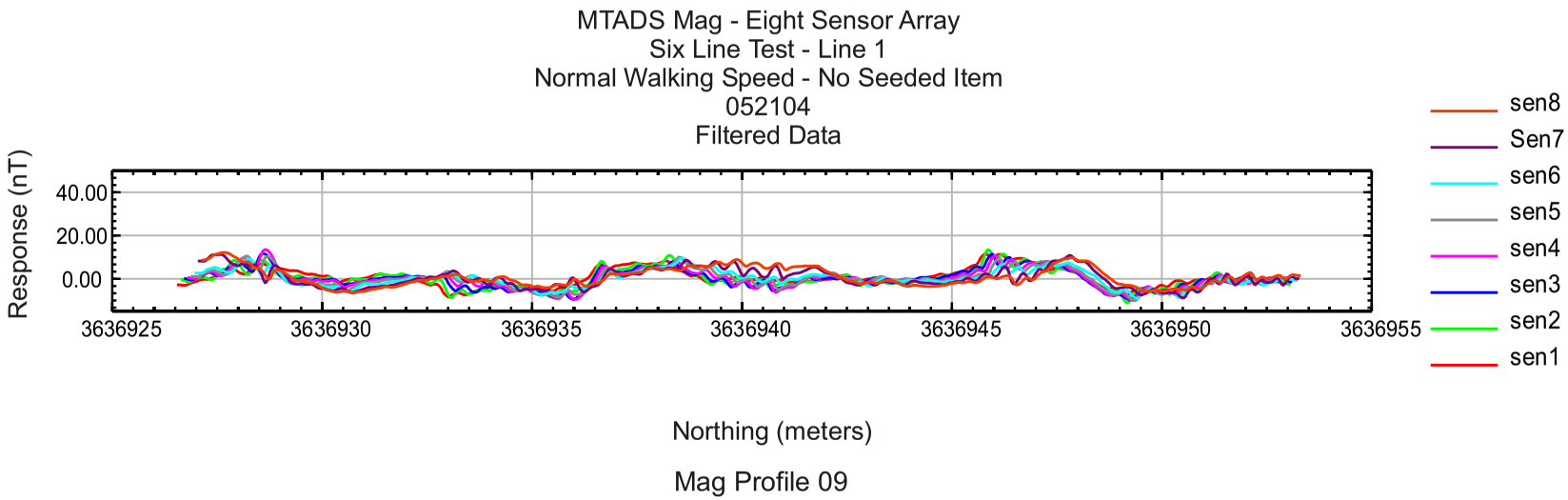
Mag Profile 06



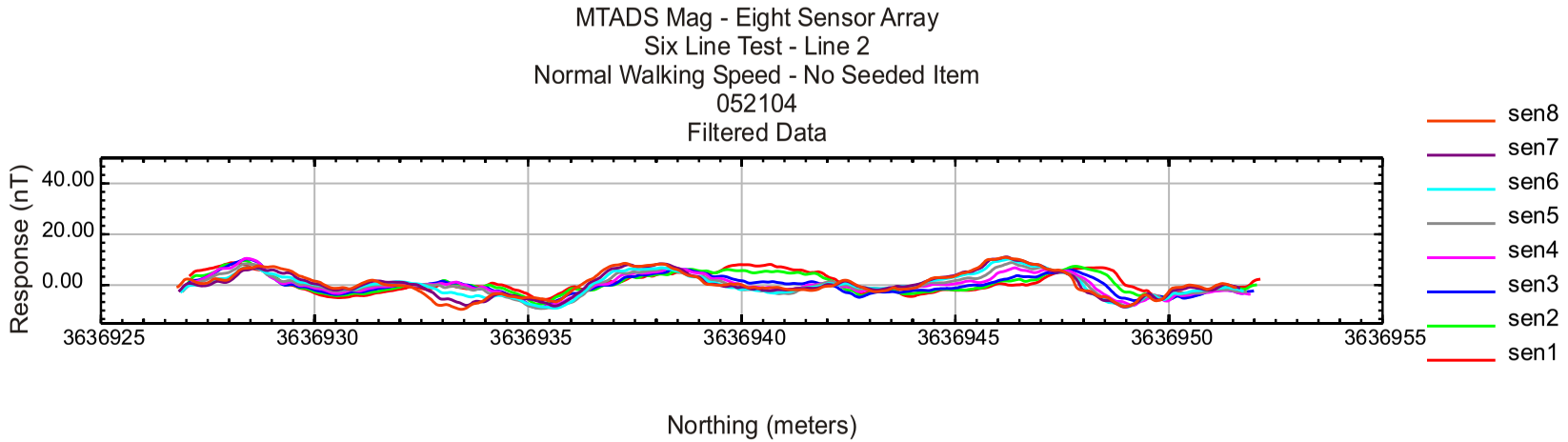
Mag Profile 07



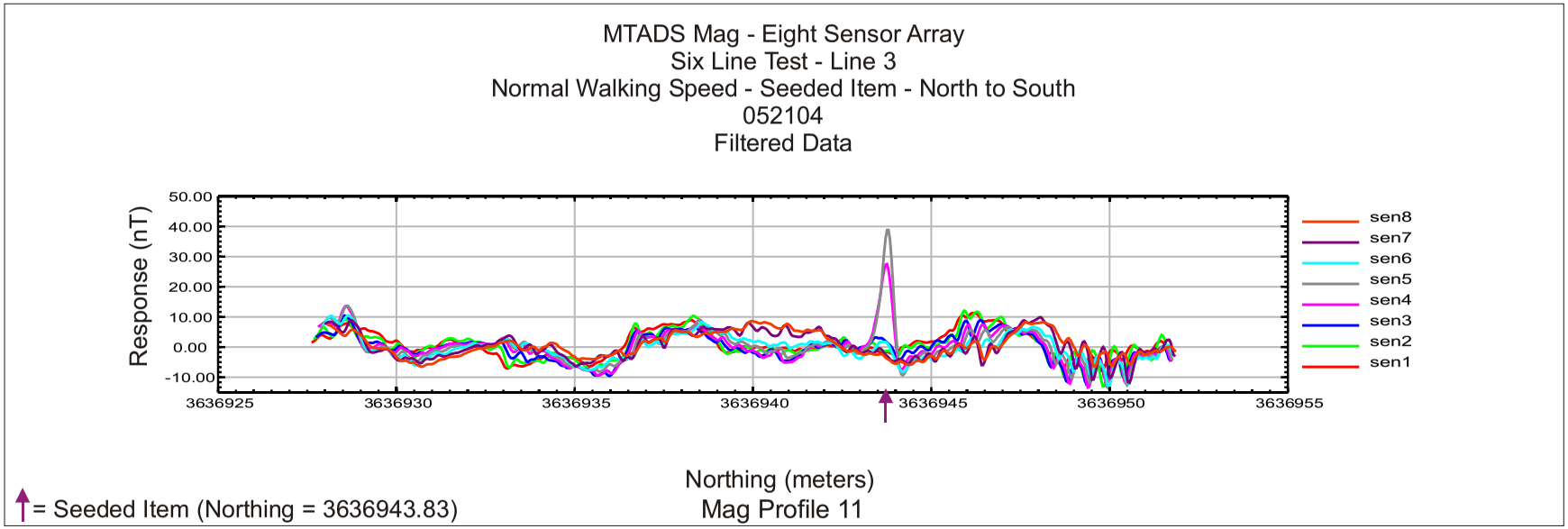
Mag Profile 08

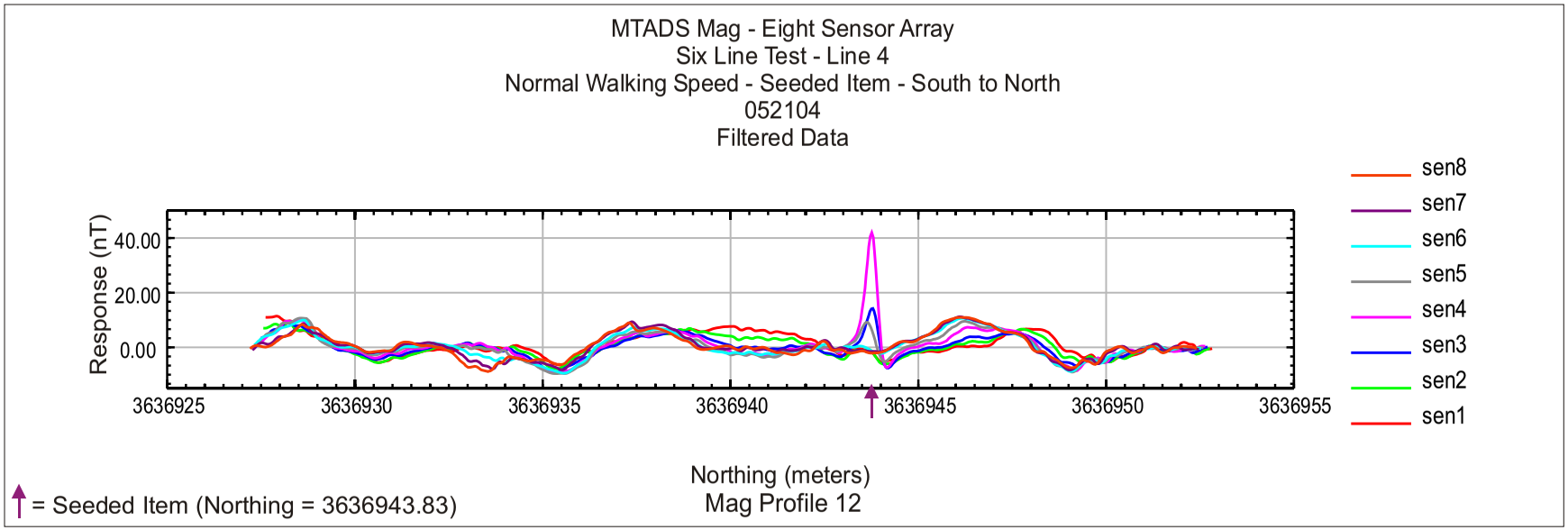


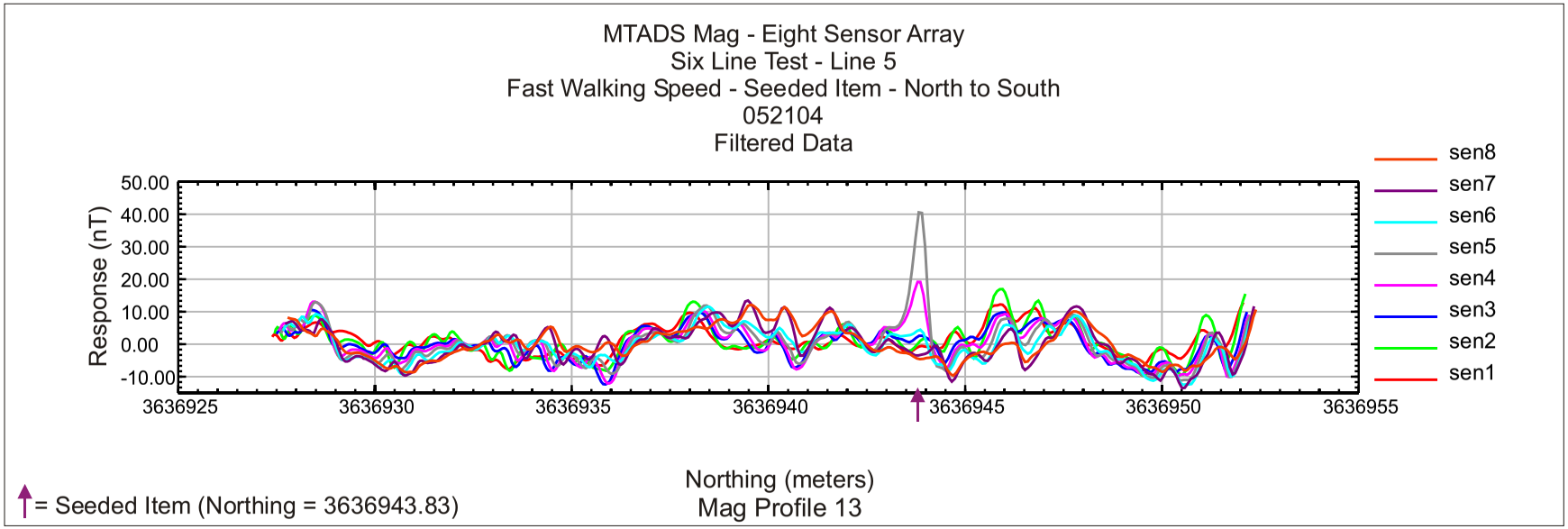
Mag Profile 09

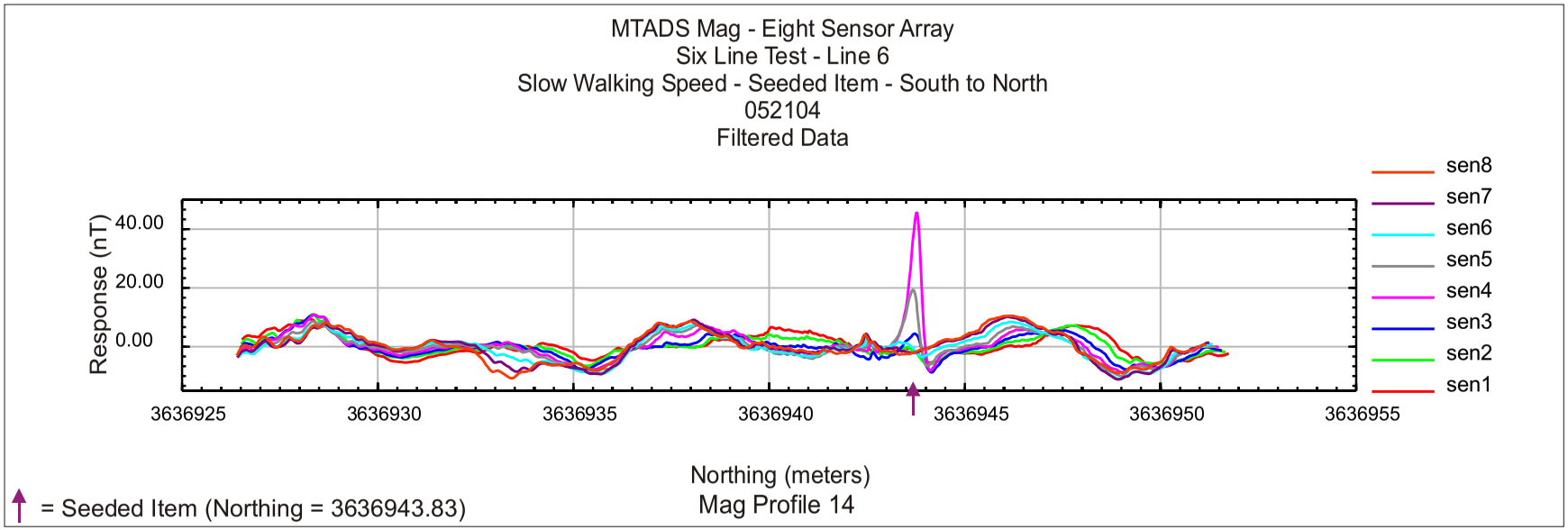


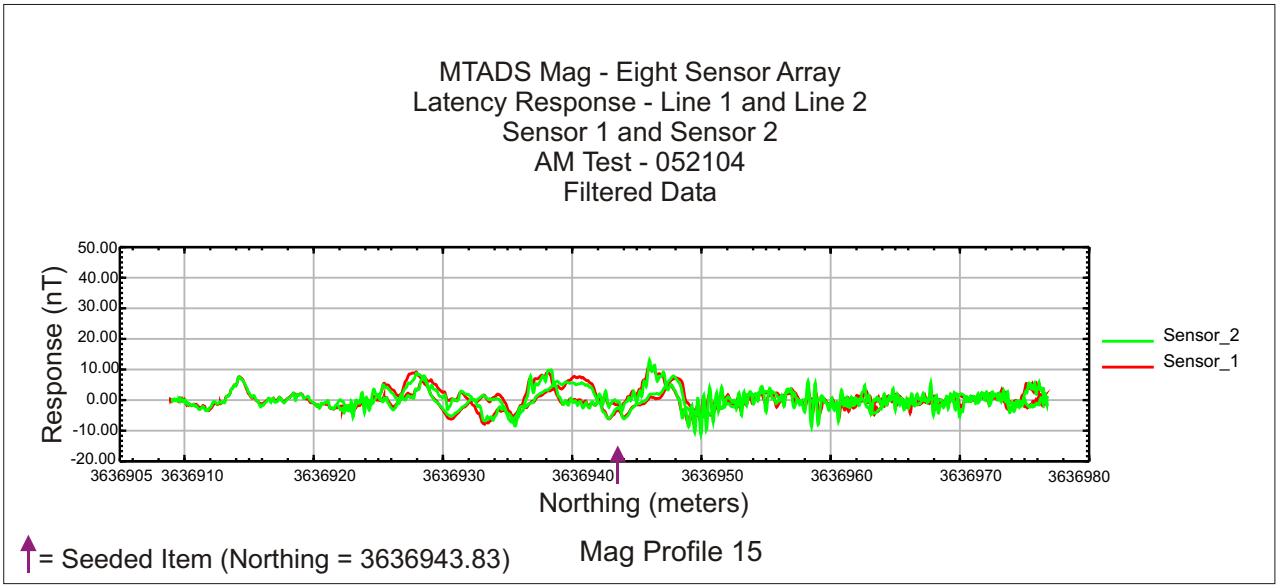
Mag Profile 10

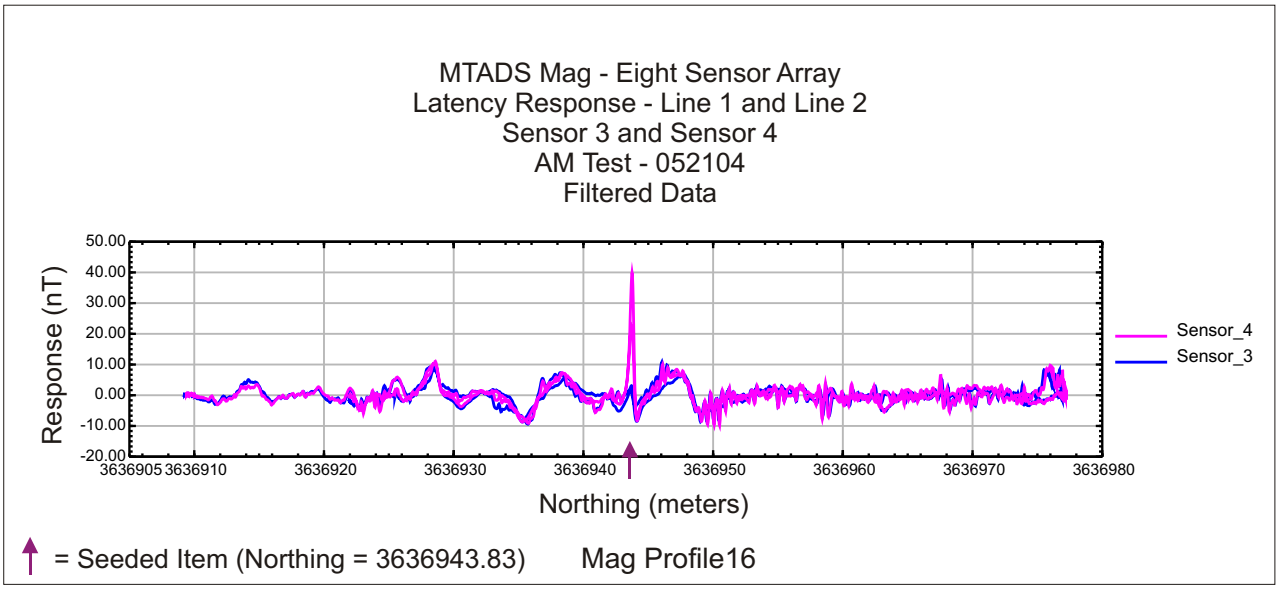

MTADS Mag - Eight Sensor Array
Six Line Test - Line 3
Normal Walking Speed - Seeded Item - North to South
052104
Filtered Data
Response (nT)
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
3636925
3636930
3636935
3636940
3636945
3636950
3636955
sen8
sen7
sen6
sen5
sen4
sen3
sen2
sen1
Northing (meters)
= Seeded Item (Northing = 3636943.83)
Mag Profile 11

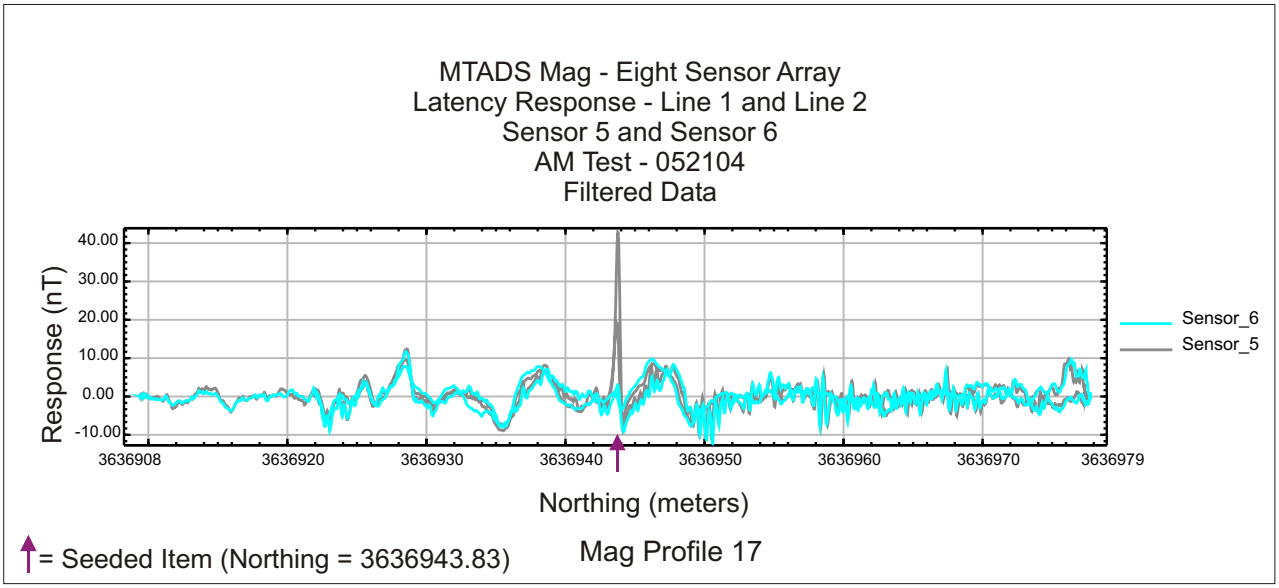

MTADS Mag - Eight Sensor Array
Six Line Test - Line 4
Normal Walking Speed - Seeded Item - South to North
052104
Filtered Data
Response (nT)
40.00
20.00
0.00
3636925
3636930
3636935
3636940
3636945
3636950
3636955
sen8
sen7
sen6
sen5
sen4
sen3
sen2
sen1
Northing (meters)
= Seeded Item (Northing = 3636943.83)
Mag Profile 12

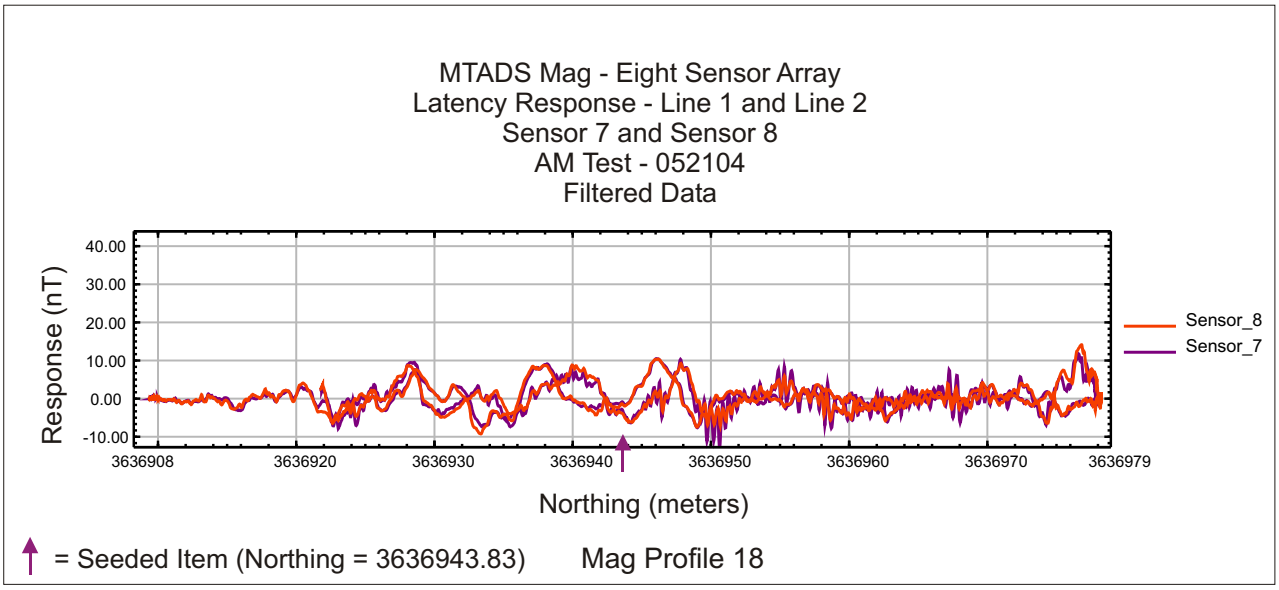

MTADS Mag - Eight Sensor Array
Six Line Test - Line 5
Fast Walking Speed - Seeded Item - North to South
052104
Filtered Data
Response (nT)
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
3636925
3636930
3636935
3636940
3636945
3636950
3636955
sen8
sen7
sen6
sen5
sen4
sen3
sen2
sen1
Northing (meters)
Mag Profile 13
= Seeded Item (Northing = 3636943.83)

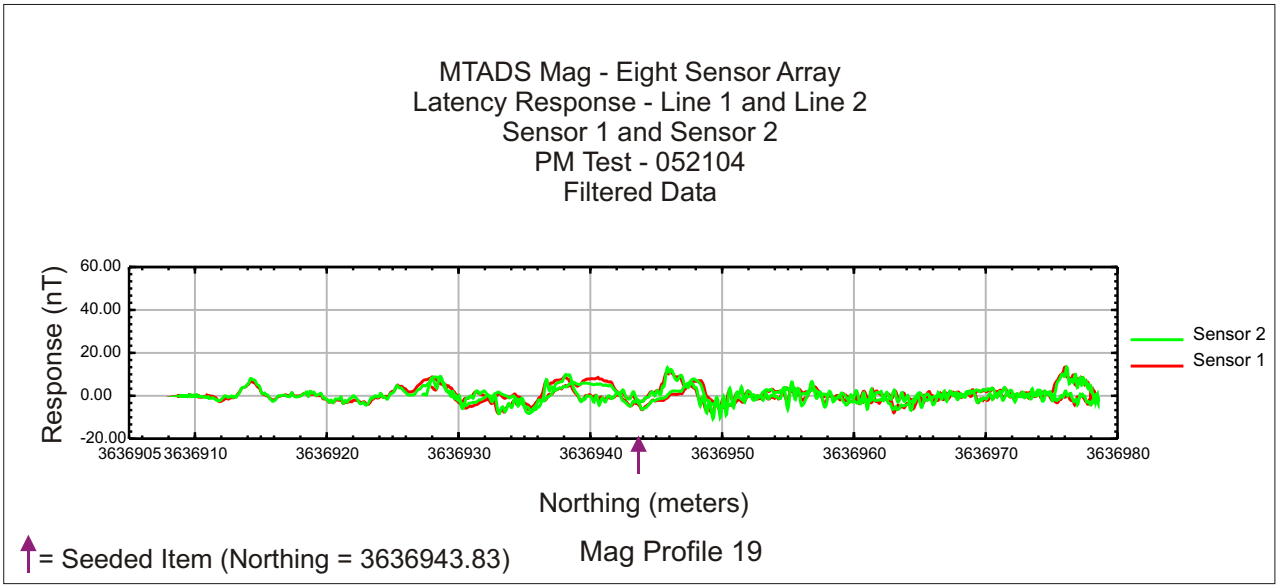

MTADS Mag - Eight Sensor Array
Six Line Test - Line 6
Slow Walking Speed - Seeded Item - South to North
052104
Filtered Data
Response (nT)
40.00
20.00
0.00
3636925
3636930
3636935
3636940
3636945
3636950
3636955
sen8
sen7
sen6
sen5
sen4
sen3
sen2
sen1
Northing (meters)
Mag Profile 14
= Seeded Item (Northing = 3636943.83)

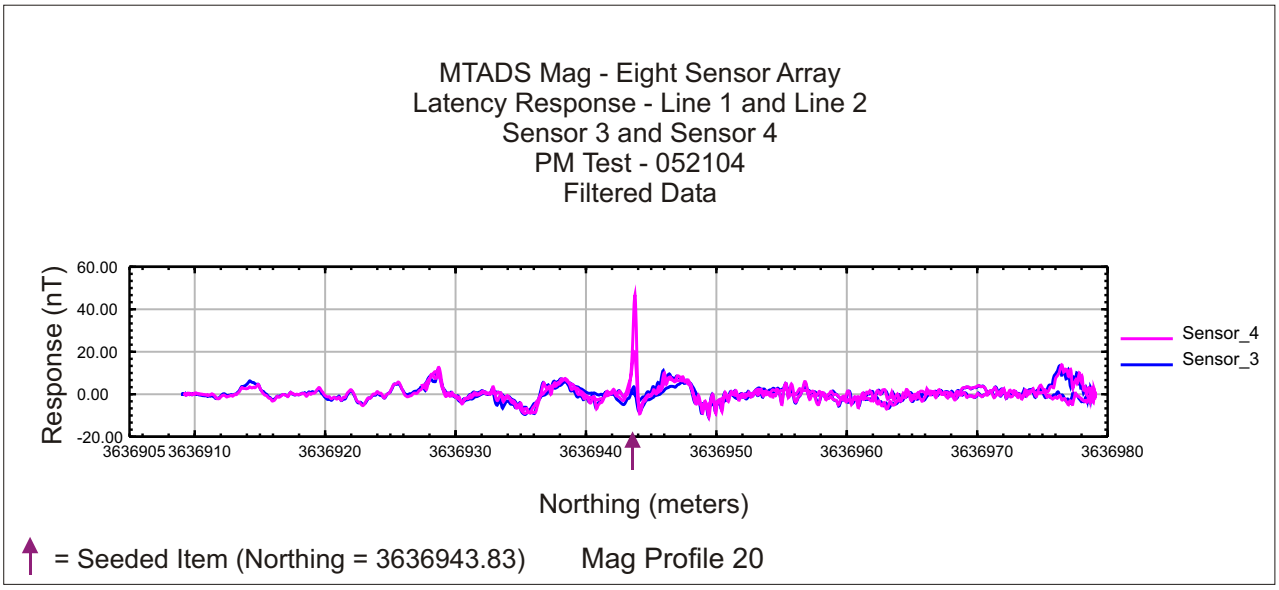

MTADS Mag - Eight Sensor Array
Latency Response - Line 1 and Line 2
Sensor 1 and Sensor 2
AM Test - 052104
Filtered Data
Response (nT)
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
3636905
3636910
3636920
3636930
3636940
3636950
3636960
3636970
3636980
Northing (meters)
Sensor_2
Sensor_1
= Seeded Item (Northing = 3636943.83)
Mag Profile 15

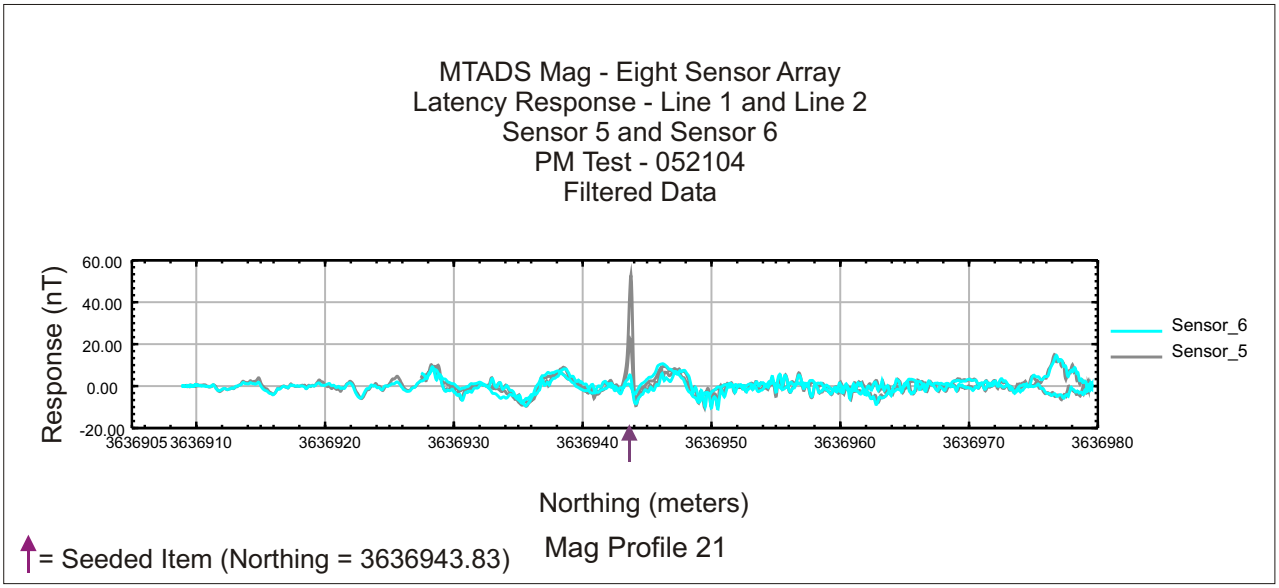

MTADS Mag - Eight Sensor Array
Latency Response - Line 1 and Line 2
Sensor 3 and Sensor 4
AM Test - 052104
Filtered Data
Response (nT)
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
3636905
3636910
3636920
3636930
3636940
3636950
3636960
3636970
3636980
Northing (meters)
Sensor_4
Sensor_3
= Seeded Item (Northing = 3636943.83)
Mag Profile16

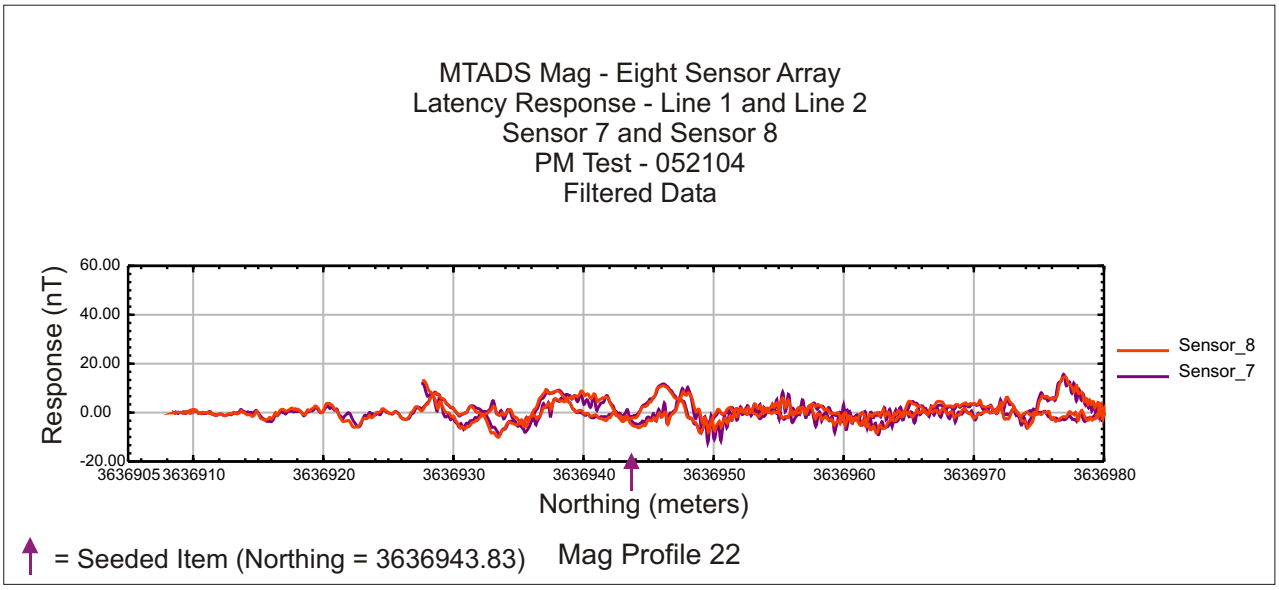

MTADS Mag - Eight Sensor Array
Latency Response - Line 1 and Line 2
Sensor 5 and Sensor 6
AM Test - 052104
Filtered Data
Response (nT)
40.00
30.00
20.00
10.00
0.00
-10.00
3636908
3636920
3636930
3636940
3636950
3636960
3636970
3636979
Northing (meters)
Sensor_6
Sensor_5
= Seeded Item (Northing = 3636943.83)
Mag Profile 17

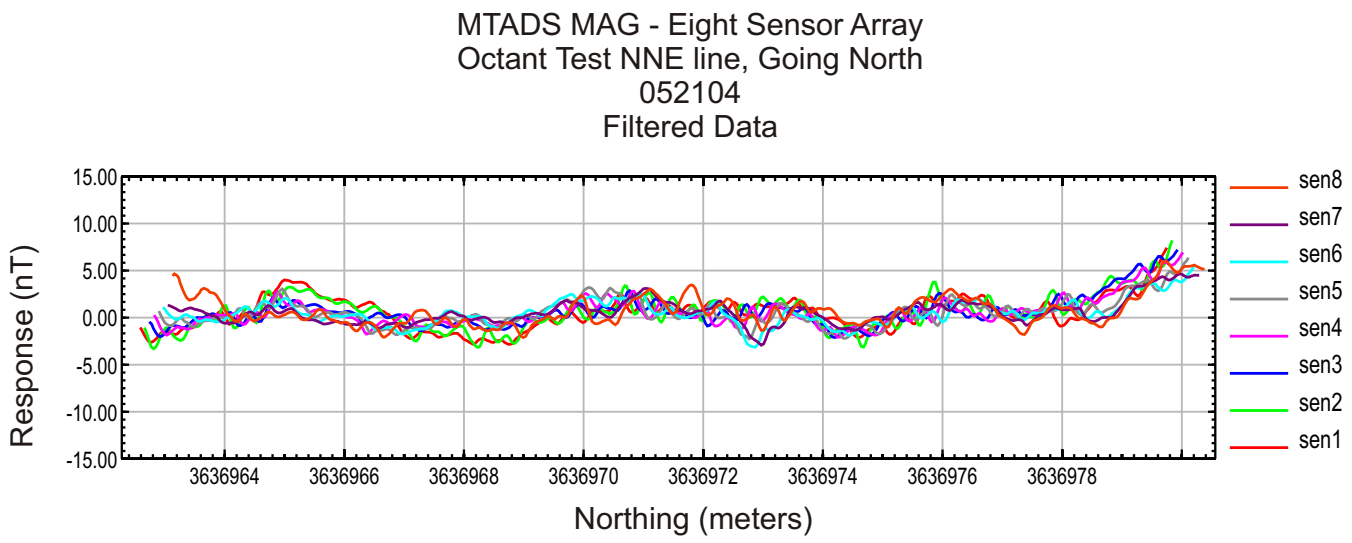

MTADS Mag - Eight Sensor Array
Latency Response - Line 1 and Line 2
Sensor 7 and Sensor 8
AM Test - 052104
Filtered Data
Response (nT)
40.00
30.00
20.00
10.00
0.00
-10.00
3636908
3636920
3636930
3636940
3636950
3636960
3636970
3636979
Northing (meters)
Sensor_8
Sensor_7
= Seeded Item (Northing = 3636943.83)
Mag Profile 18


MTADS Mag - Eight Sensor Array
Latency Response - Line 1 and Line 2
Sensor 1 and Sensor 2
PM Test - 052104
Filtered Data
Response (nT)
60.00
40.00
20.00
0.00
-20.00
3636905
3636910
3636920
3636930
3636940
3636950
3636960
3636970
3636980
Northing (meters)
Sensor 2
Sensor 1
= Seeded Item (Northing = 3636943.83)
Mag Profile 19

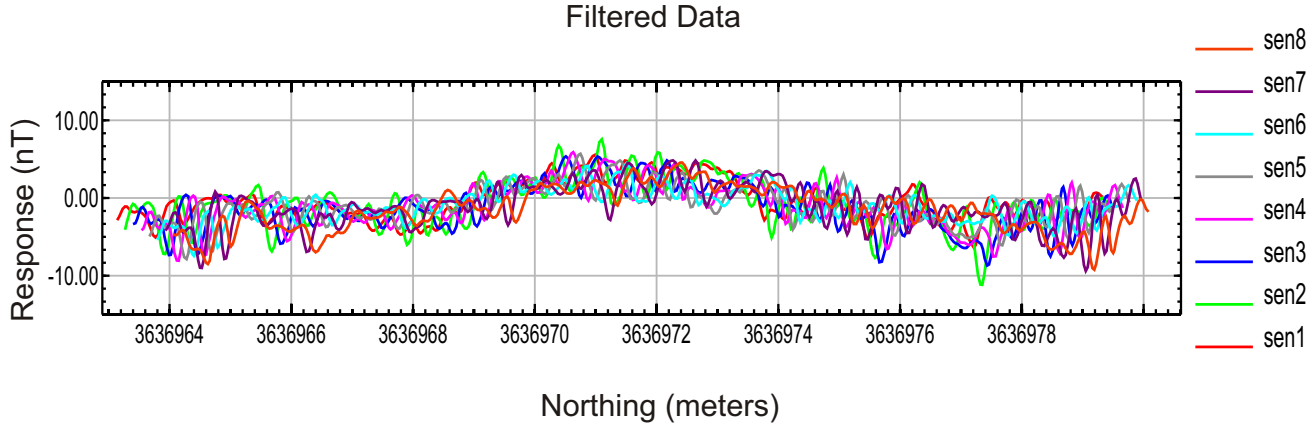

MTADS Mag - Eight Sensor Array
Latency Response - Line 1 and Line 2
Sensor 3 and Sensor 4
PM Test - 052104
Filtered Data
Response (nT)
60.00
40.00
20.00
0.00
-20.00
3636905
3636910
3636920
3636930
3636940
3636950
3636960
3636970
3636980
Northing (meters)
Sensor_4
Sensor_3
= Seeded Item (Northing = 3636943.83)
Mag Profile 20


MTADS Mag - Eight Sensor Array
Latency Response - Line 1 and Line 2
Sensor 5 and Sensor 6
PM Test - 052104
Filtered Data
Response (nT)
60.00
40.00
20.00
0.00
-20.00
3636905
3636910
3636920
3636930
3636940
3636950
3636960
3636970
3636980
Northing (meters)
Sensor_6
Sensor_5
= Seeded Item (Northing = 3636943.83)
Mag Profile 21

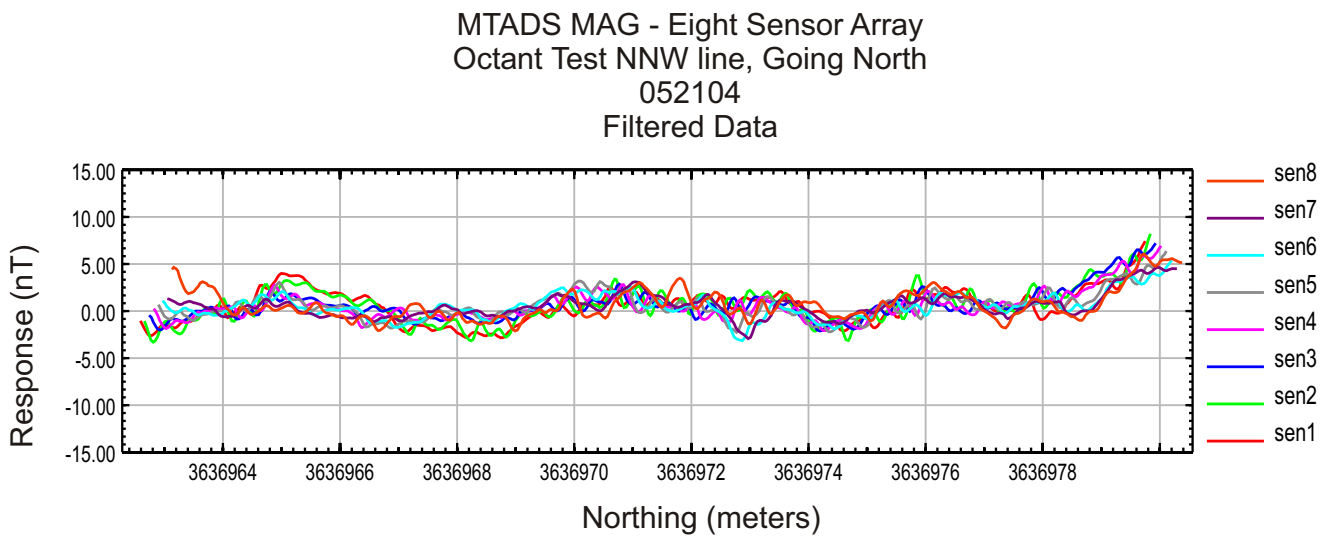

MTADS Mag - Eight Sensor Array
Latency Response - Line 1 and Line 2
Sensor 7 and Sensor 8
PM Test - 052104
Filtered Data
Response (nT)
60.00
40.00
20.00
0.00
-20.00
3636905
3636910
3636920
3636930
3636940
3636950
3636960
3636970
3636980
Northing (meters)
Sensor_8
Sensor_7
= Seeded Item (Northing = 3636943.83)
Mag Profile 22



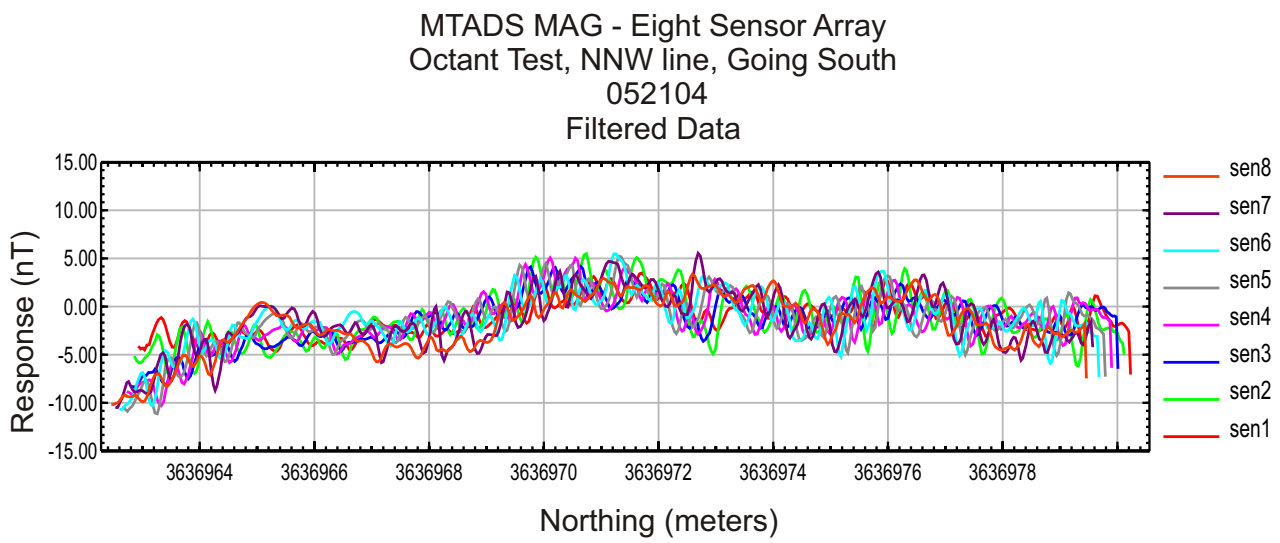
Mag_Profile 23



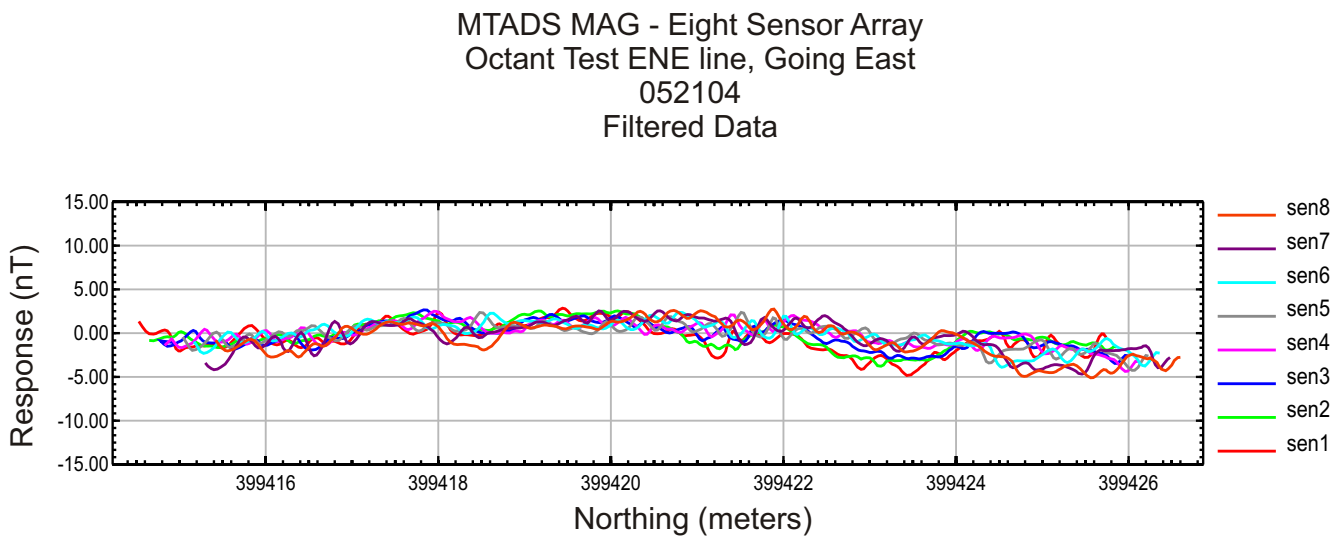
Mag Profile 24



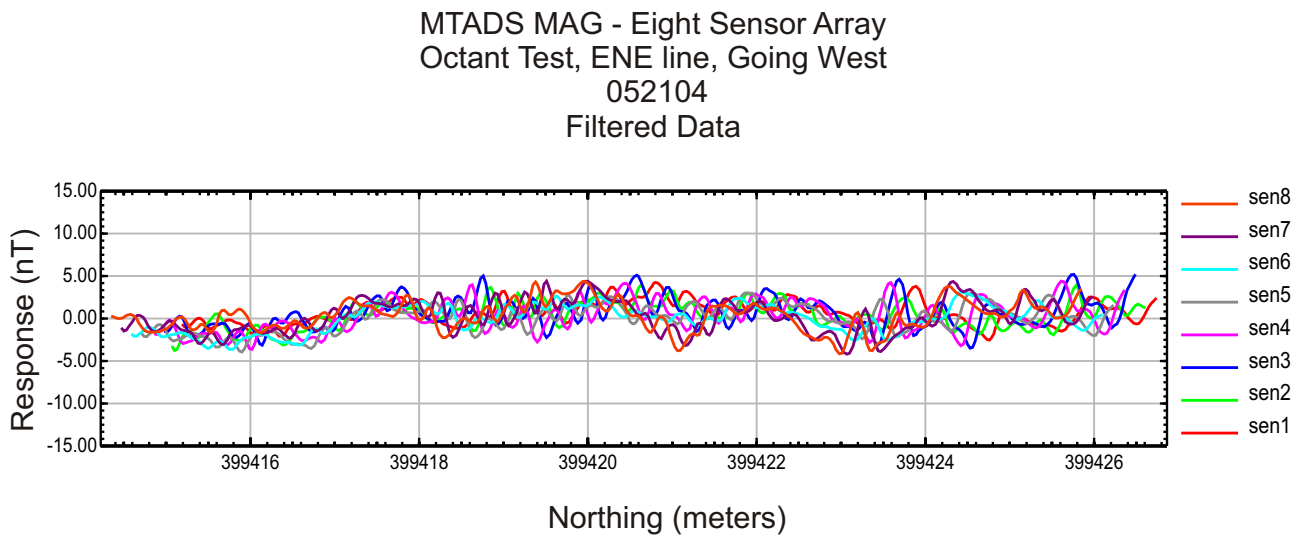
Mag Profile 25



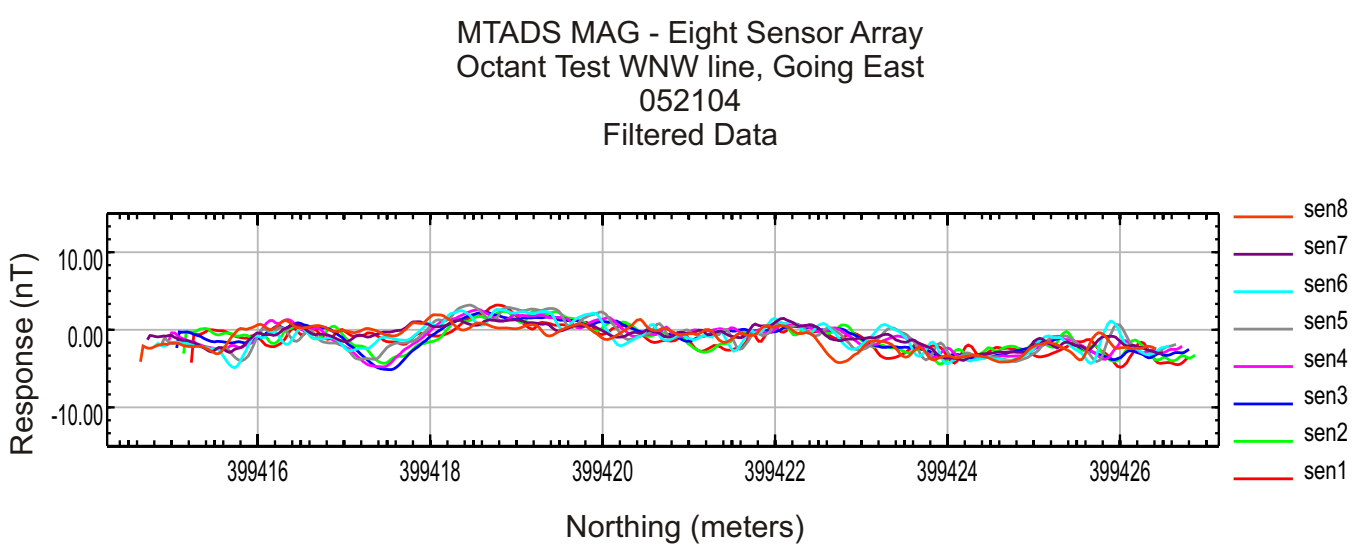
Mag Profile 26



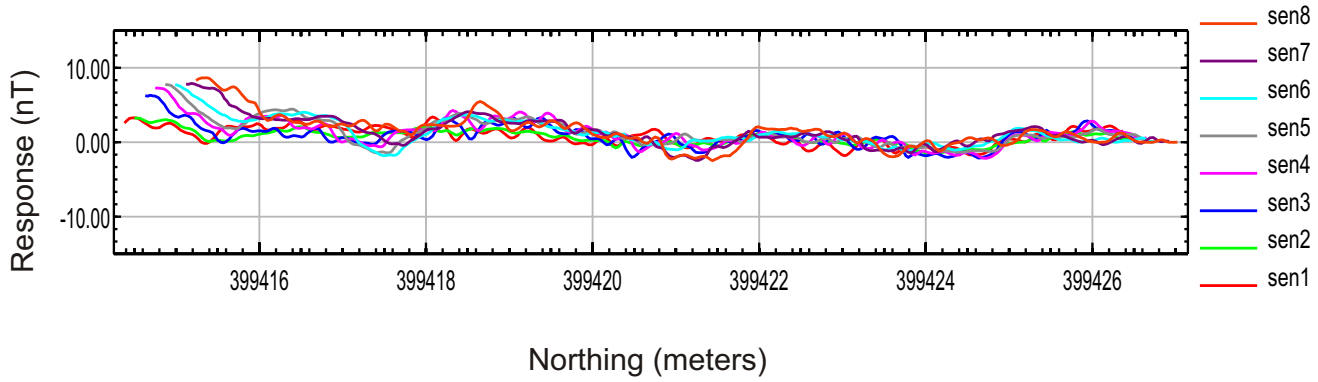
Mag Profile 27



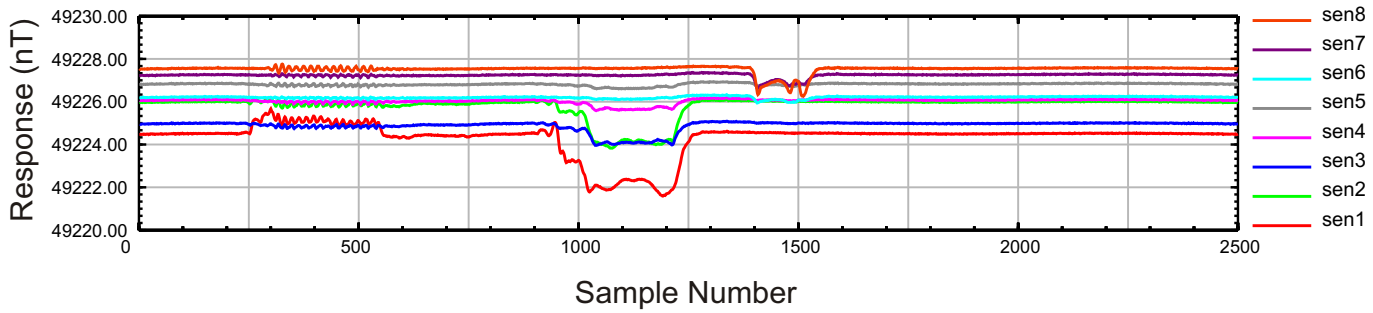
Mag Profile 28



Mag Profile 29



Mag Profile 30



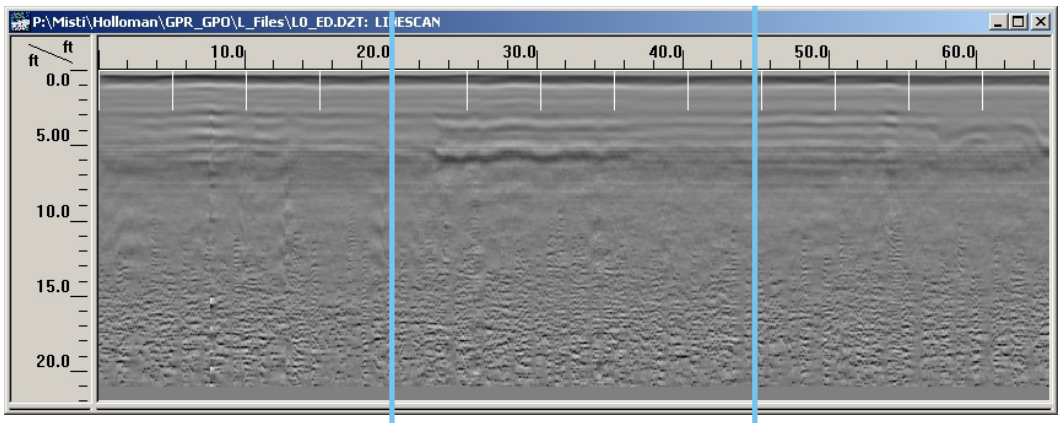
Mag Profile 31

EM31 Profiles

GPR Profiles

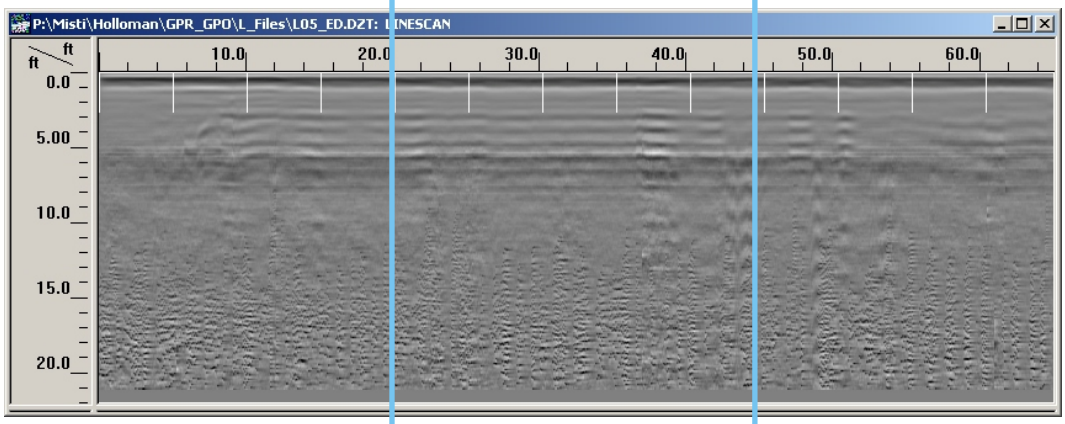
Trench 2 Trench 1

Line 0



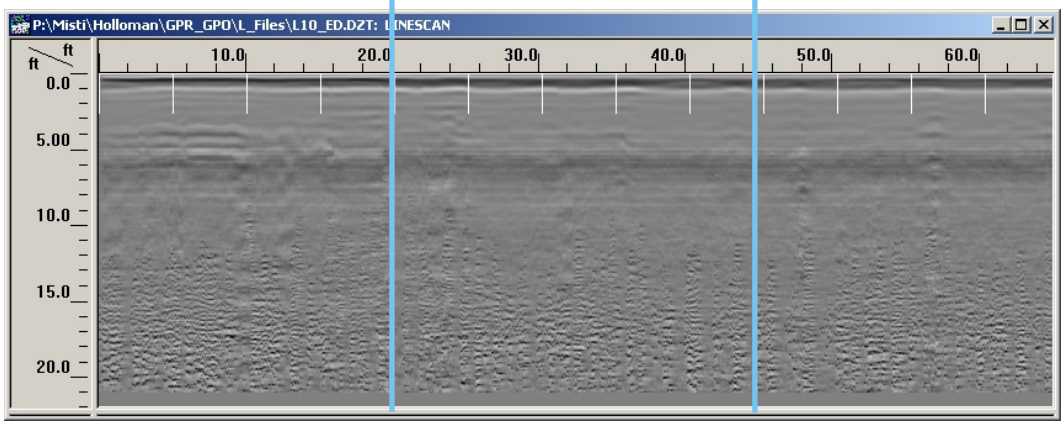
Profile 1

Line 5



Profile 2

Line 10



Profile 3

BLACKHAWK Geophysical & UXO Services
a division of Blackhawk GeoServices

Processed GPR Data
200 MHz Antenna - SIR 10B
Line 0, Line 5, Line 10
West to East
Holloman Air Force Base, New Mexico

GPR - Sheet 1

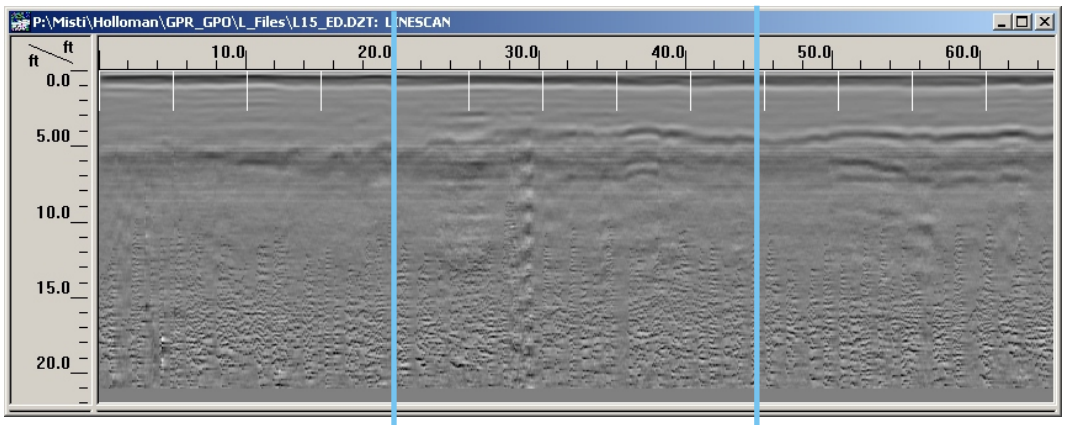
Project No. 0401.008

File: GPR_Profiles

Date: June 2004

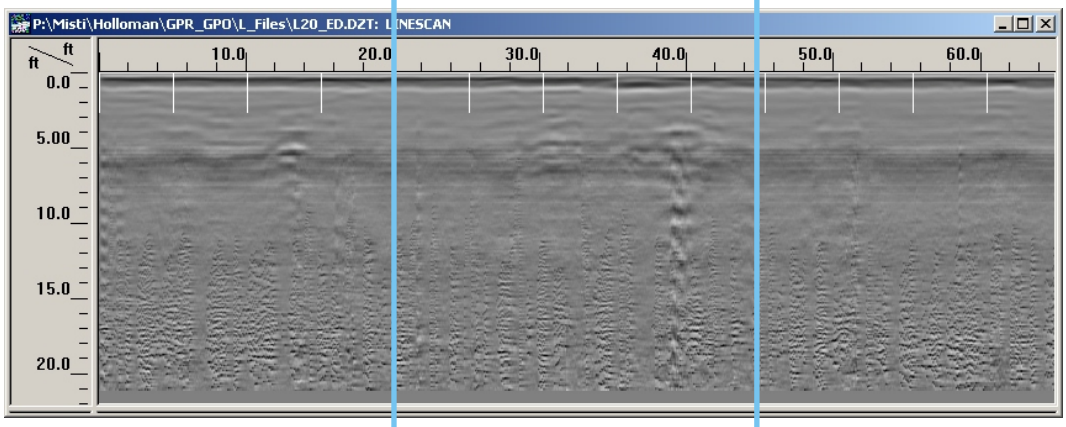
Trench 2 Trench 1

Line 15



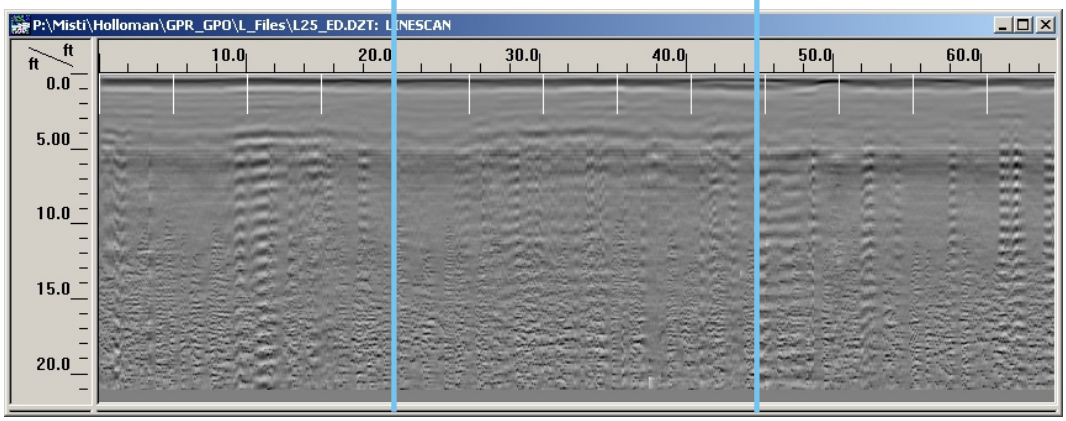
Profile 4

Line 20



Profile 5

Line 25



Profile 6

BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices

Processed GPR Data
200 MHz Antenna - SIR 10B
Line 15, Line 20, Line 25
West to East
Holloman Air Force Base, New Mexico

GPR - Sheet 2

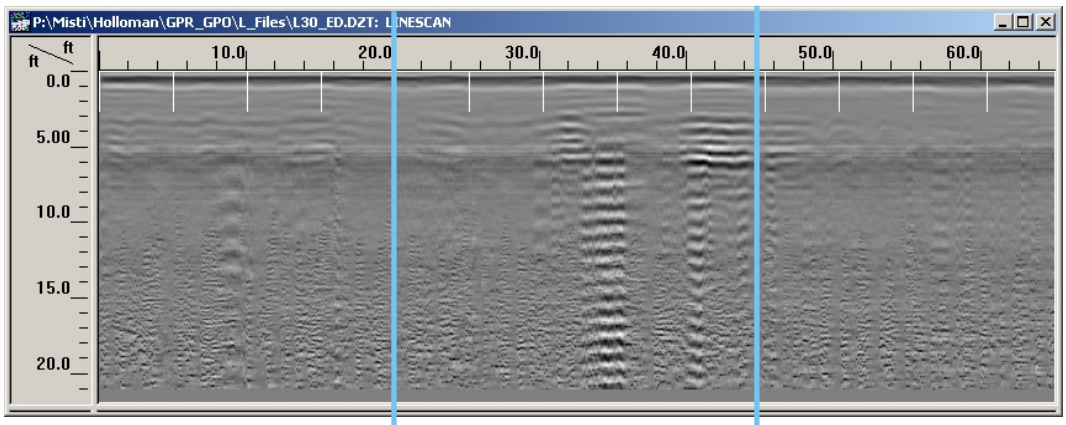
Project No. 0401.008

File: GPR_Profiles

Date: June 2004

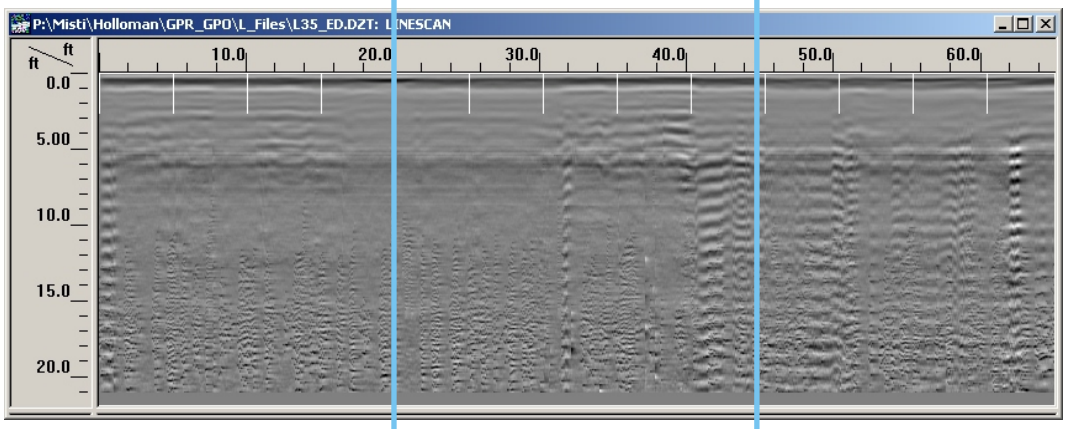
Trench 2 Trench 1

Line 30



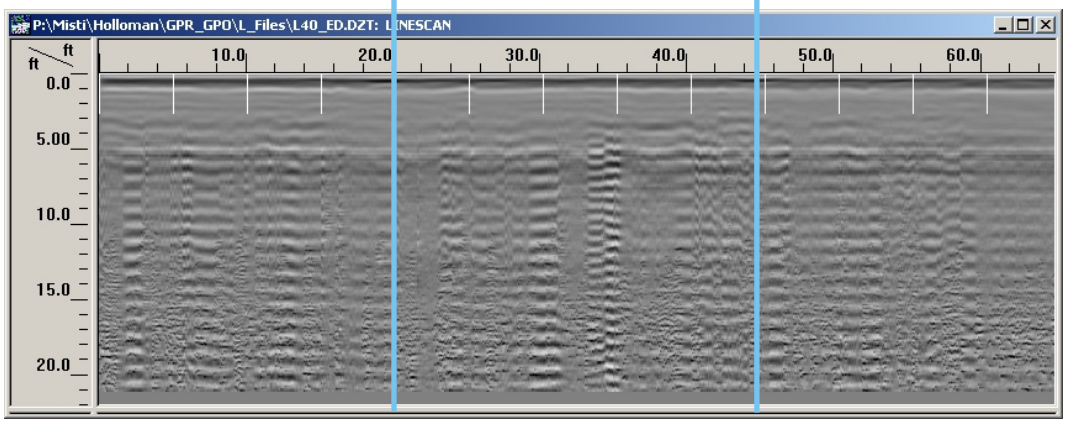
Profile 7

Line 35



Profile 8

Line 40



Profile 9

BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices

Processed GPR Data
200 MHz Antenna - SIR 10B
Line 30, Line 35, Line 40
West to East
Holloman Air Force Base, New Mexico

GPR - Sheet 3

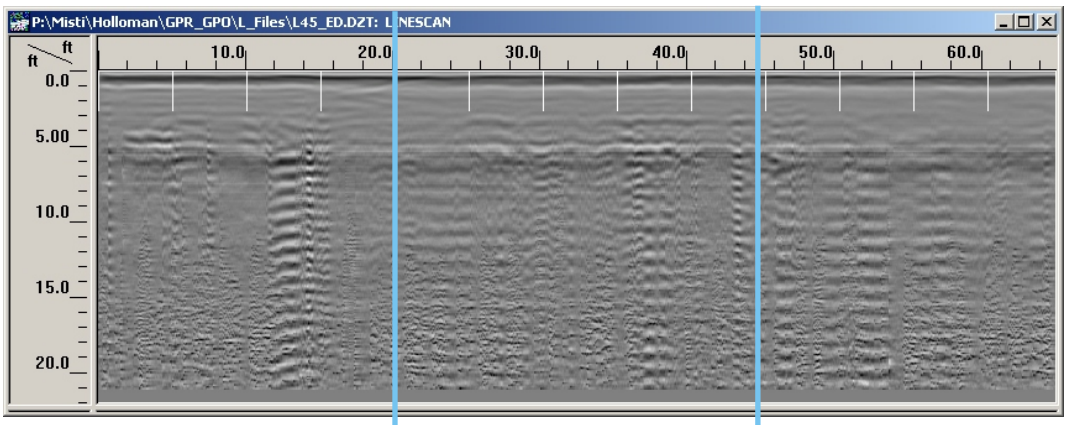
Project No. 0401.008

File: GPR_Profiles

Date: June 2004

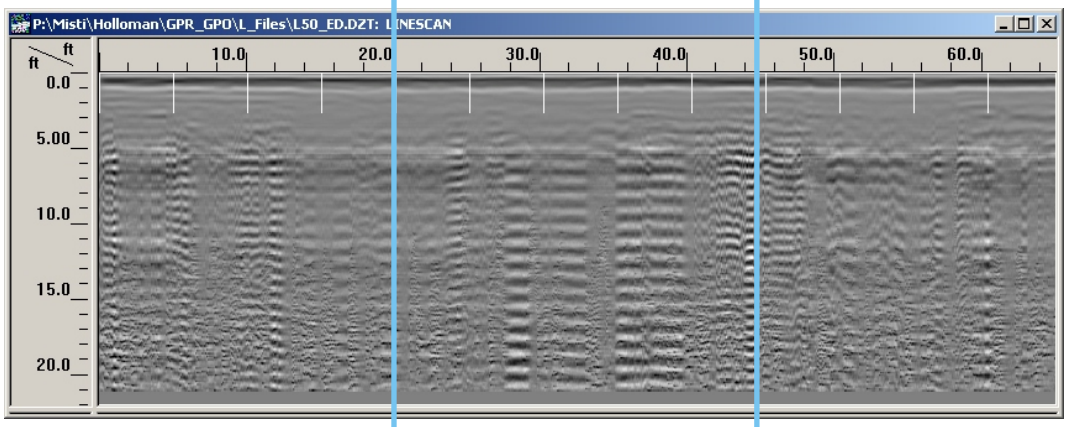
Trench 2 Trench 1

Line 45



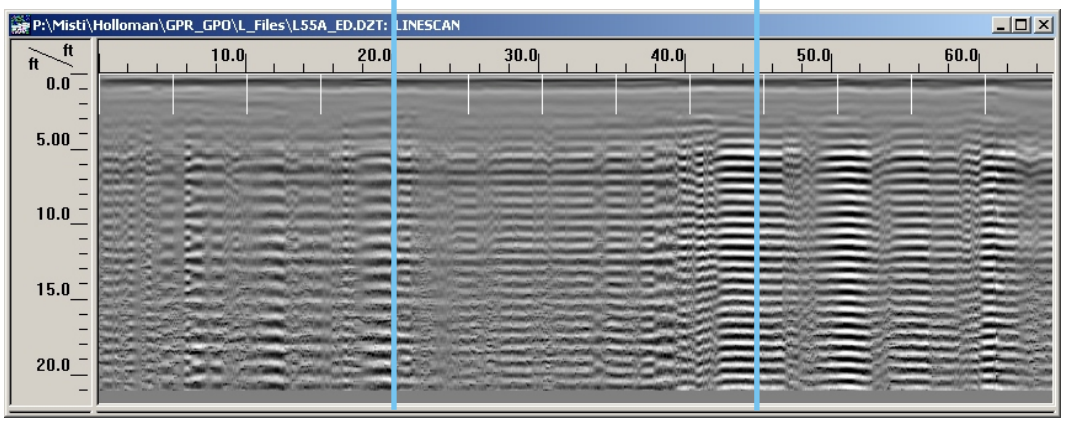
Profile 10

Line 50



Profile 11

Line 55



Profile12

BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices

Processed GPR Data
200 MHz Antenna - SIR 10B
Line 45, Line 50, Line 55
West to East
Holloman Air Force Base, New Mexico

GPR - Sheet 4

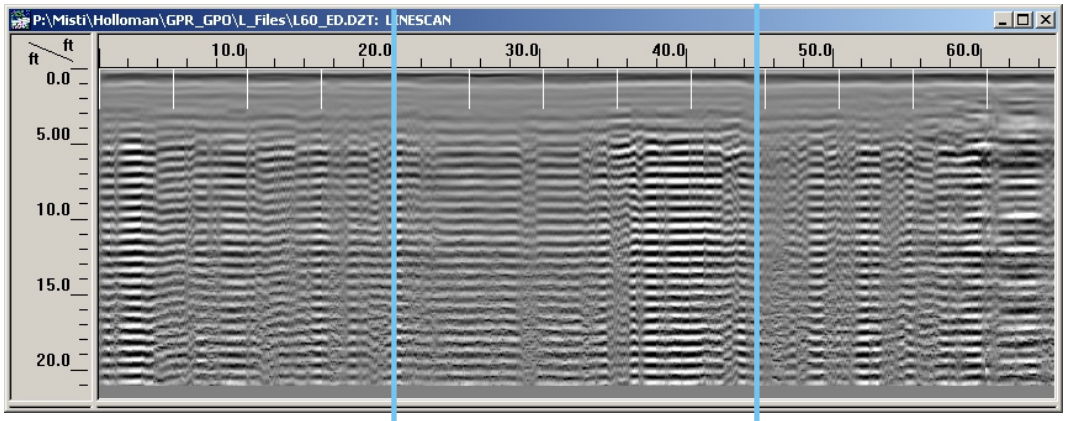
Project No. 0401.008

File: GPR_Profiles

Date: June 2004

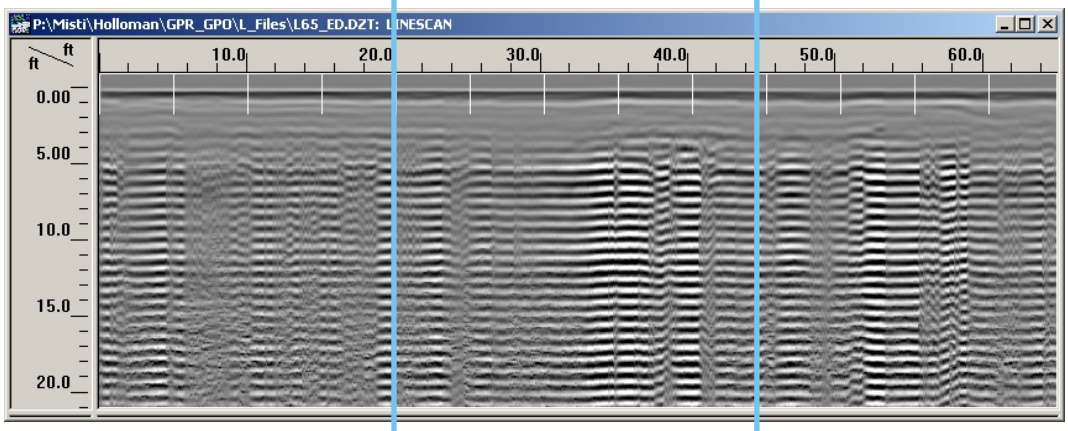
Trench 2 Trench 1

Line 60



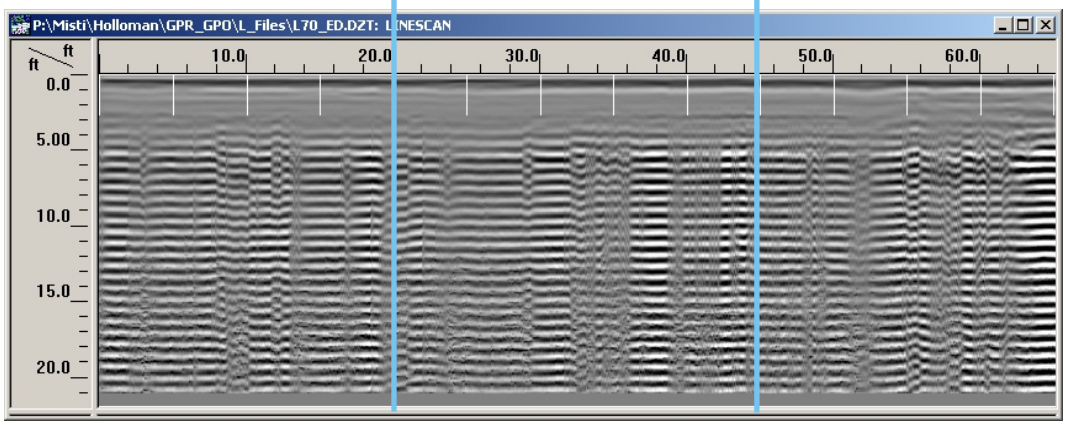
Profile 13

Line 65



Profile 14

Line 70



Profile 15

BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices

Processed GPR Data
200 MHz Antenna - SIR 10B
Line 60, Line 65, Line 70
West to East
Holloman Air Force Base, New Mexico

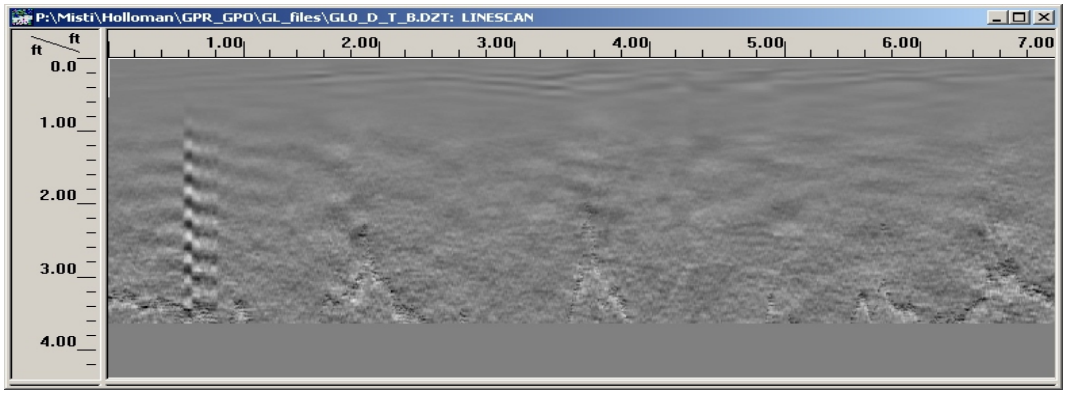
GPR - Sheet 5

Project No. 0401.008

File: GPR_Profiles

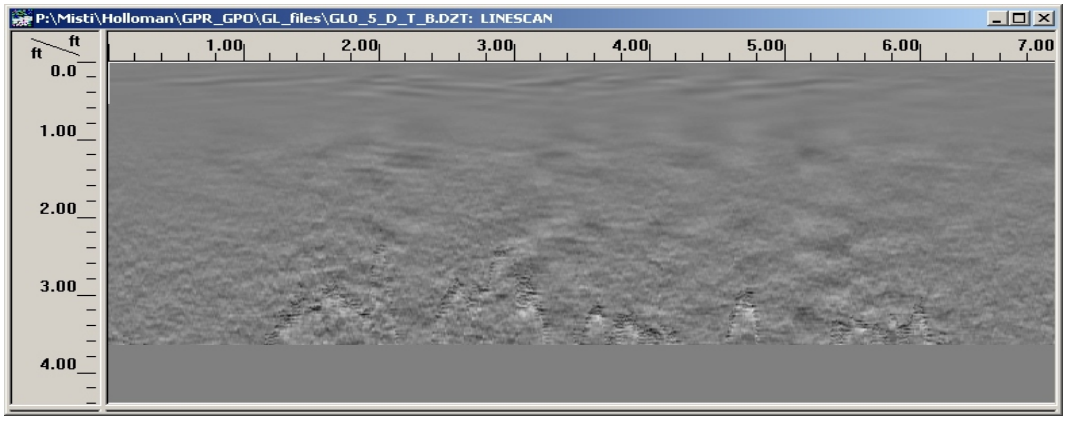
Date: June 2004

Line 0



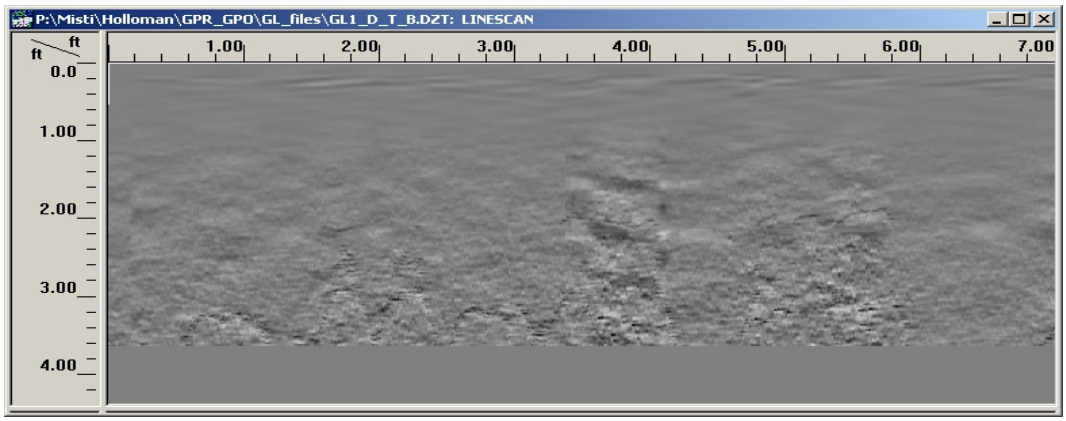
Profile 16

Line 0.5



Profile 17

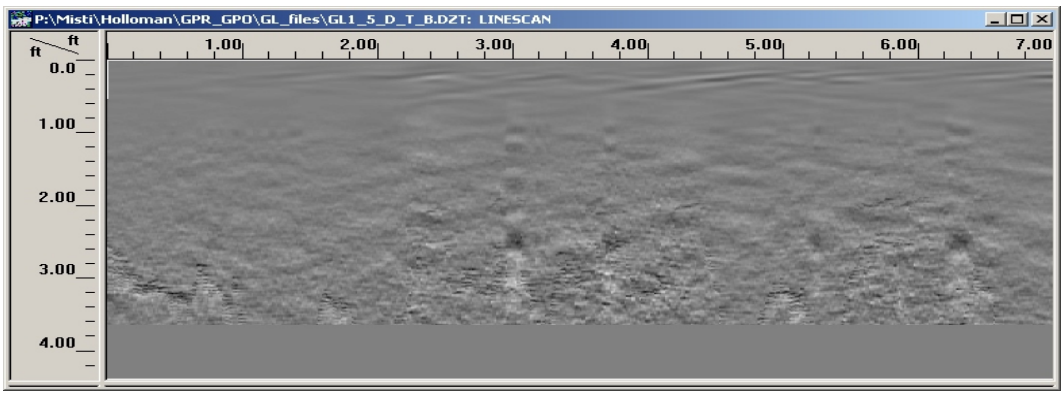
Line 1.0



Profile 18

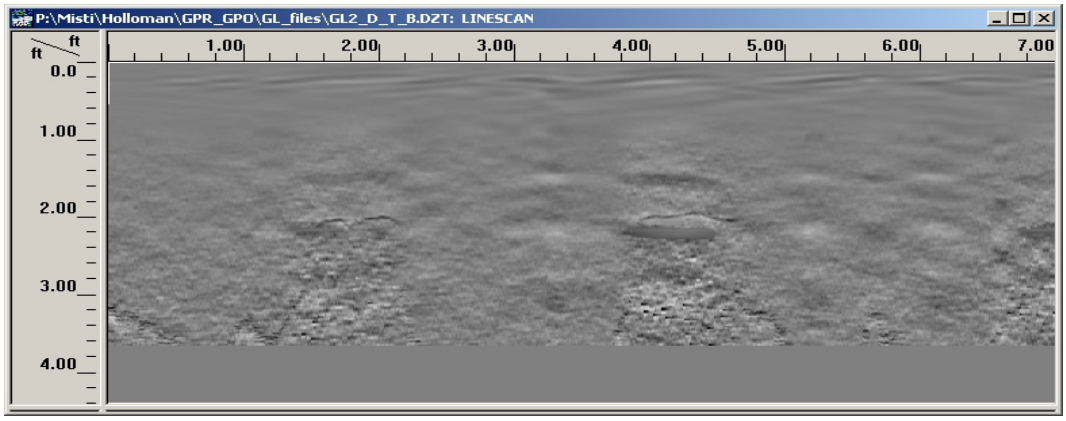
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 0, Line 0.5, Line 1.0 West to East Holloman Air Force Base, New Mexico	GPR - Sheet 6
		Project No. 0401.008
		File: GPR_Profiles
		Date: June 2004

Line 1.5



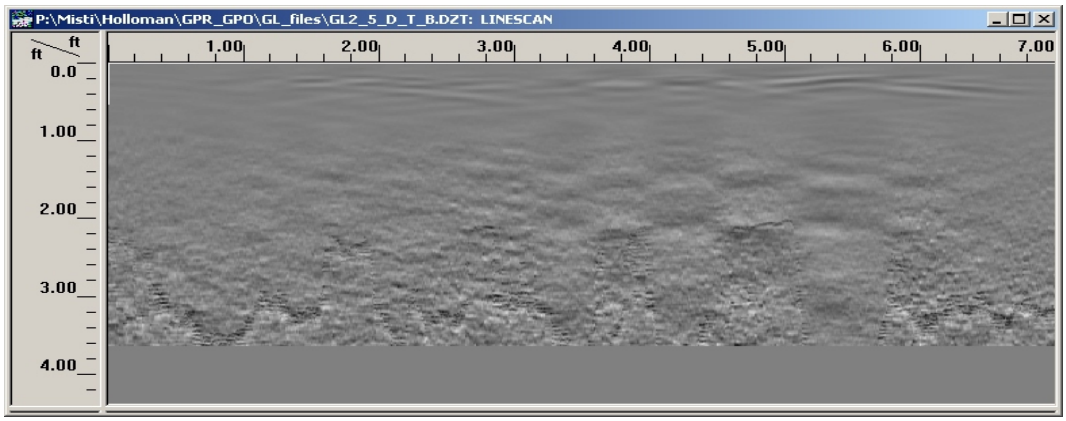
Profile 19

Line 2.0



Profile 20

Line 2.5



Profile 21

BLACKHAWK Geophysical & UXO Services
a division of Blackhawk GeoServices

Processed GPR Data
900 MHz Antenna - SIR 10B
Line 1.5, Line 2.0, Line 2.5
West to East
Holloman Air Force Base, New Mexico

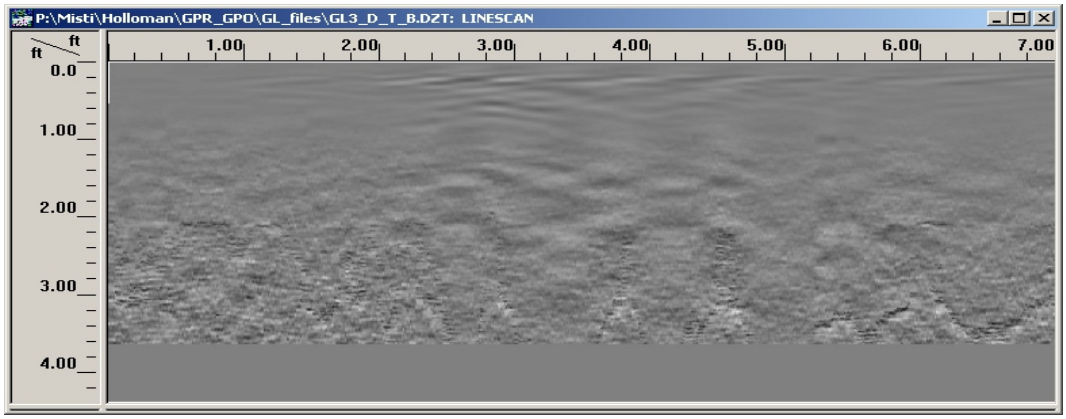
GPR - Sheet 7

Project No. 0401.008

File: GPR_Profiles

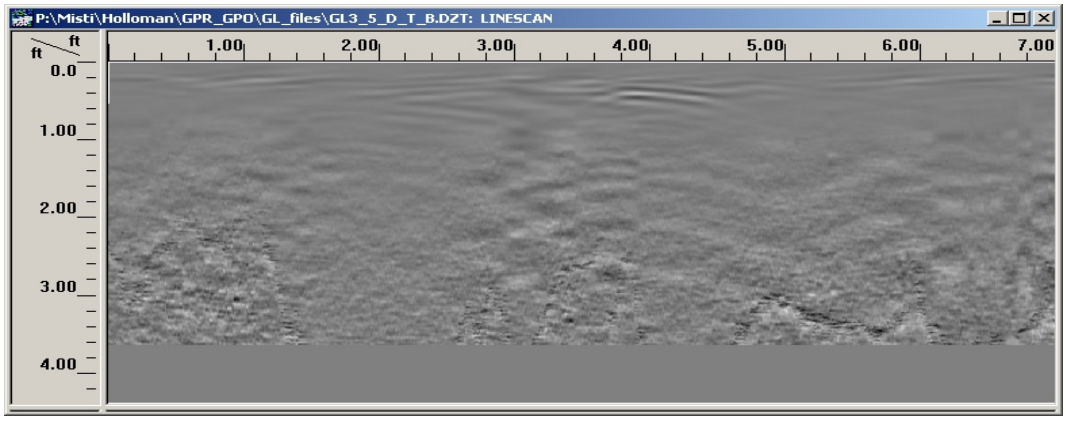
Date: June 2004

Line 3.0



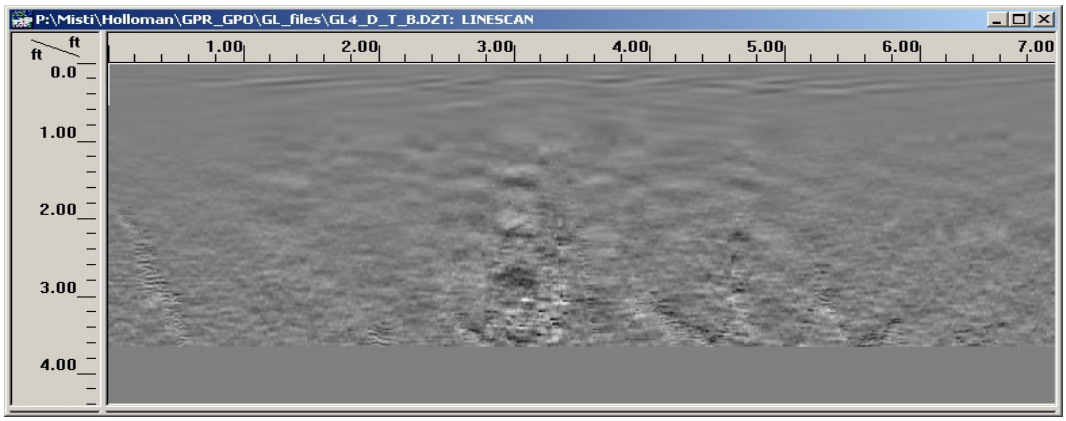
Profile 22

Line 3.5



Profile 23

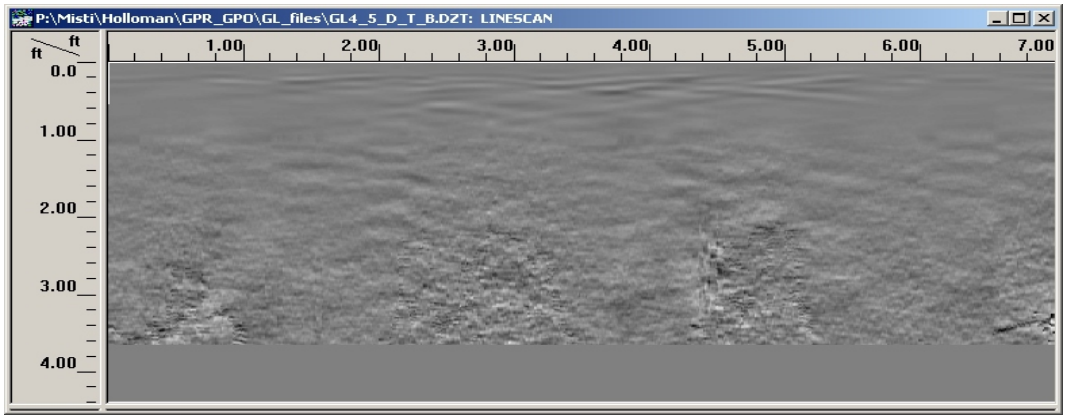
Line 4.0



Profile 24

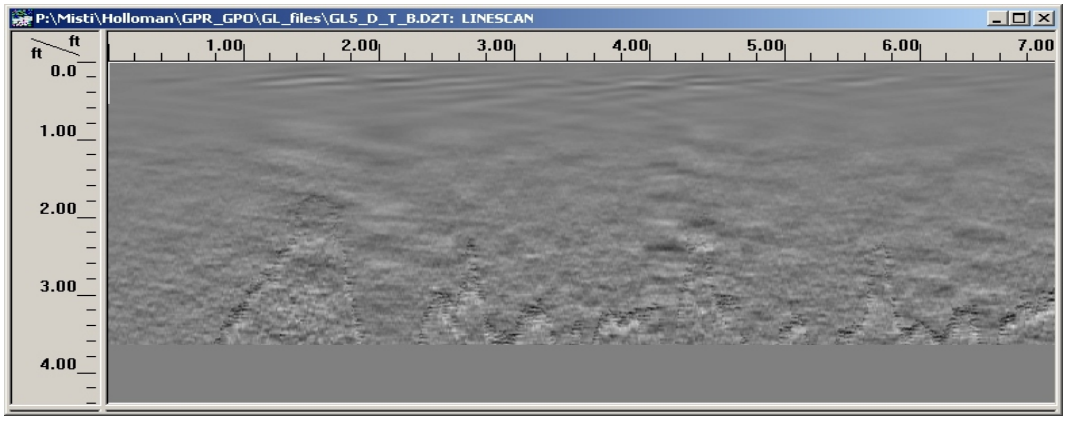
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 3.0, Line 3.5, Line 4.0 West to East Holloman Air Force Base, New Mexico	GPR - Sheet 8
		Project No. 0401.008
		File: GPR_Profiles
		Date: June 2004

Line 4.5



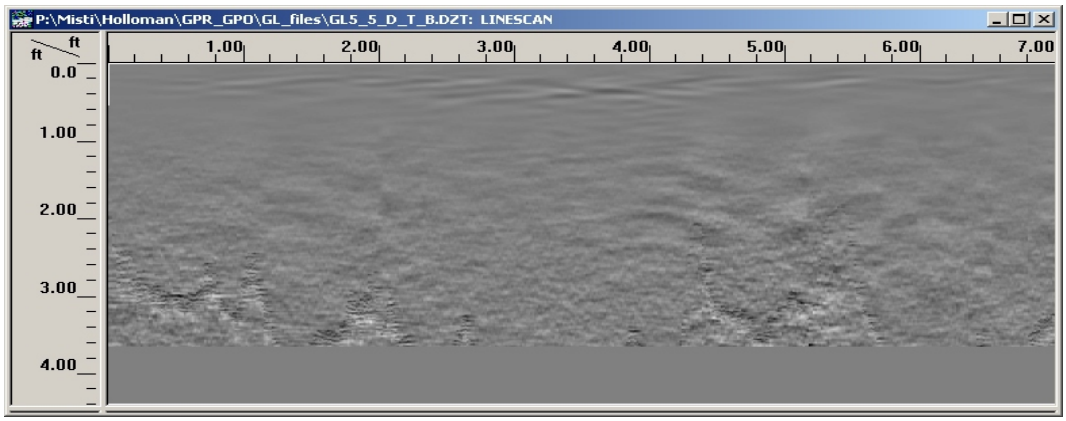
Profile 25

Line 5.0



Profile 26

Line 5.5



Profile 27

BLACKHAWK Geophysical & UXO Services
a division of Blackhawk GeoServices

Processed GPR Data
900 MHz Antenna - SIR 10B
Line 4.5, Line 5.0, Line 5.5
West to East
Holloman Air Force Base, New Mexico

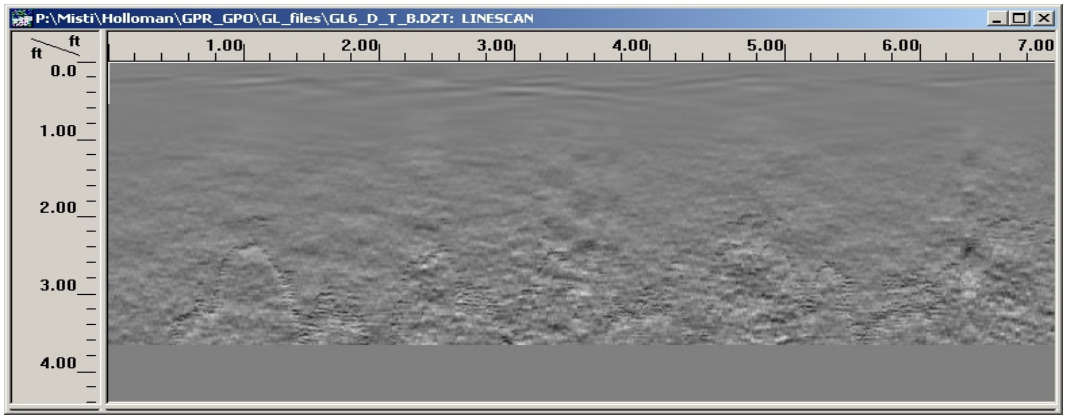
GPR - Sheet 9

Project No. 0401.008

File: GPR_Profiles

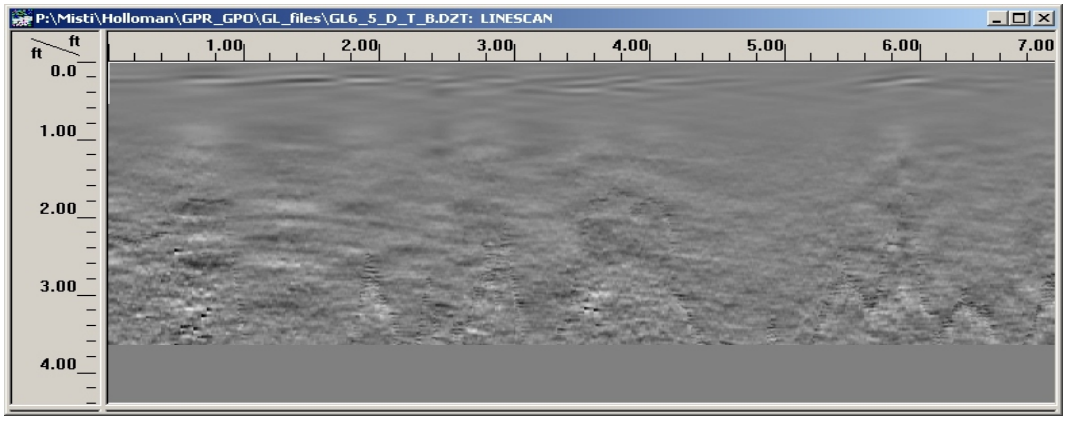
Date: June 2004

Line 6.0



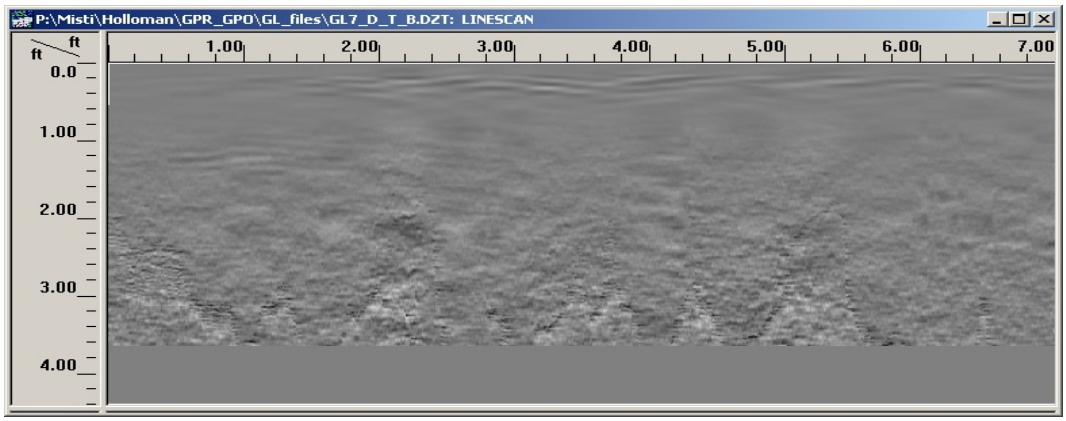
Profile 28

Line 6.5



Profile 29

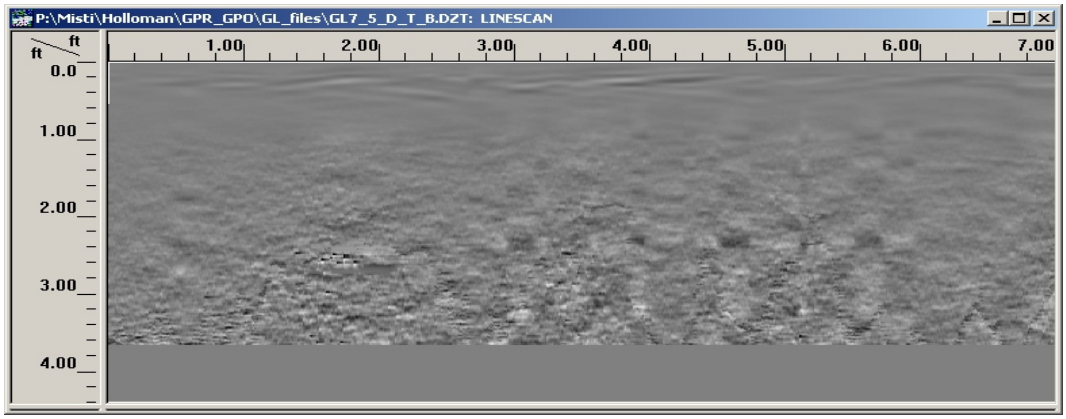
Line 7.0



Profile 30

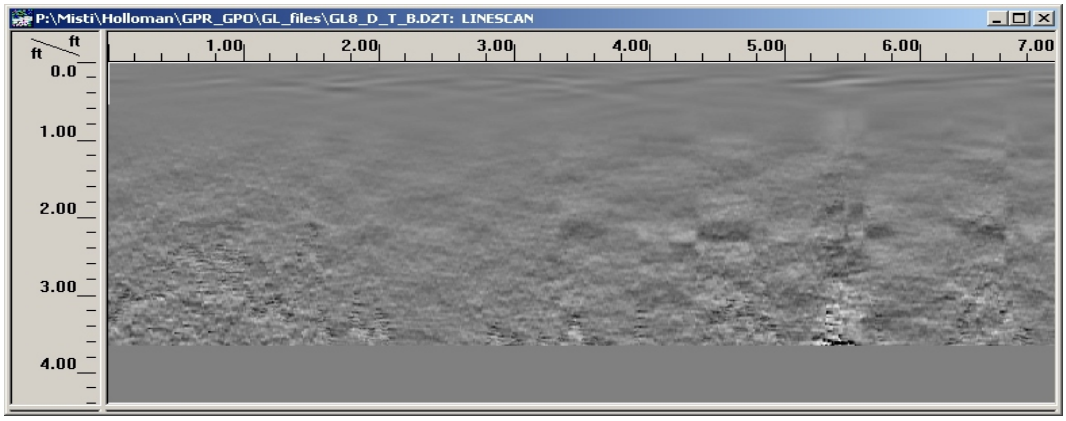
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 6.0, Line 6.5, Line 7.0 West to East Holloman Air Force Base, New Mexico	GPR - Sheet 10
		Project No. 0401.008
		File: GPR_Profiles
		Date: June 2004

Line 7.5



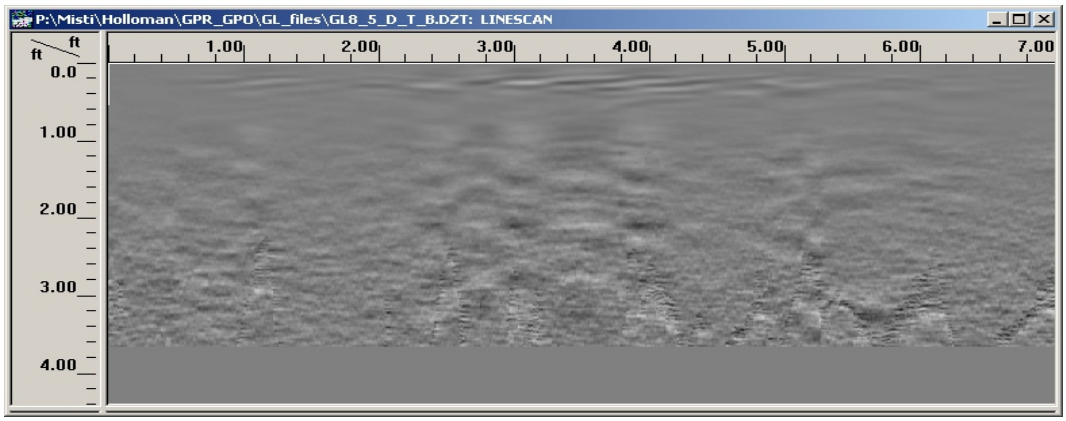
Profile 31

Line 8.0



Profile 32

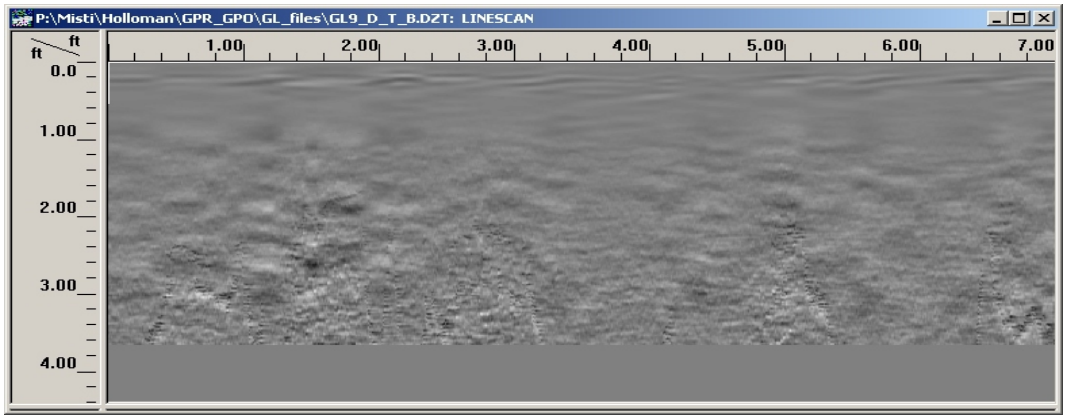
Line 8.5



Profile 33

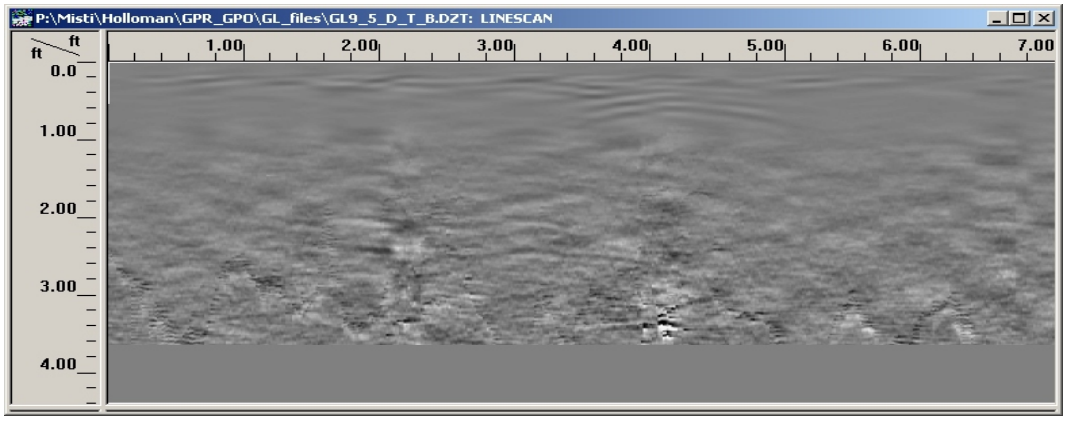
BLACKHAWK Geophysical & UXO Services, a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 7.5, Line 8.0, Line 8.5 West to East Holloman Air Force Base, New Mexico	GPR - Sheet 11 Project No. 0401.008 File: GPR_Profiles Date: June 2004

Line 9.0



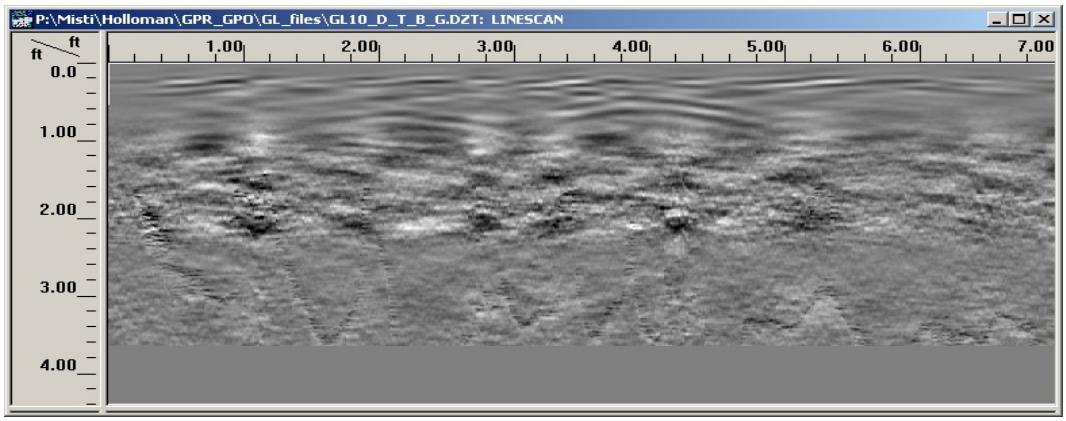
Profile 34

Line 9.5



Profile 35

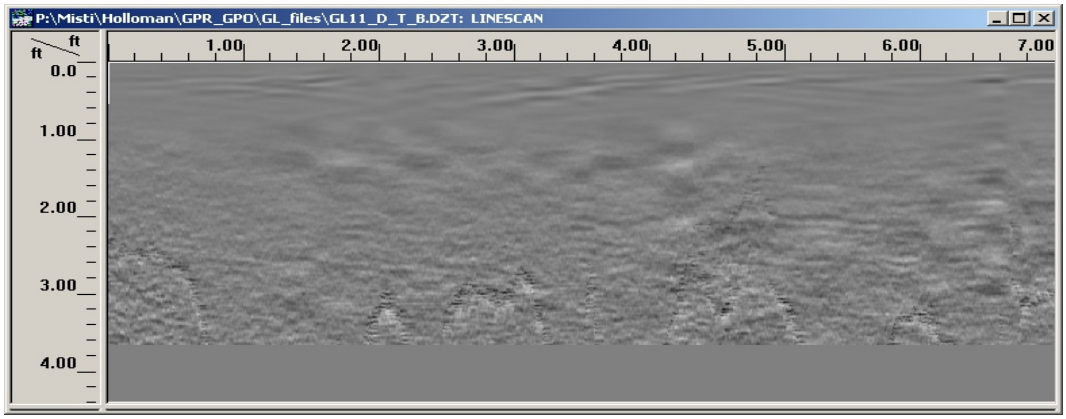
Line 10.0



Profile 36

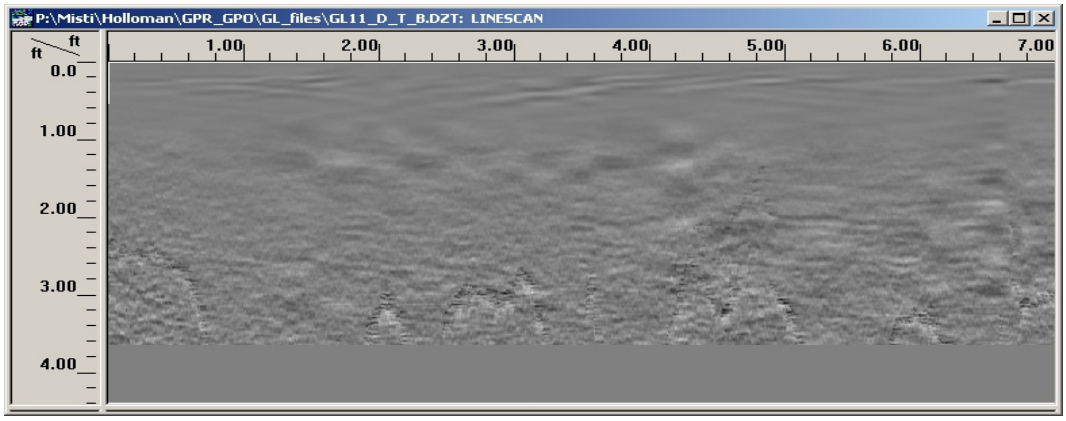
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 9.0, Line 9.5, Line 10.0 West to East Holloman Air Force Base, New Mexico	GPR - Sheet 12 Project No. 0401.008 File: GPR_Profiles Date: June 2004

Line 10.5



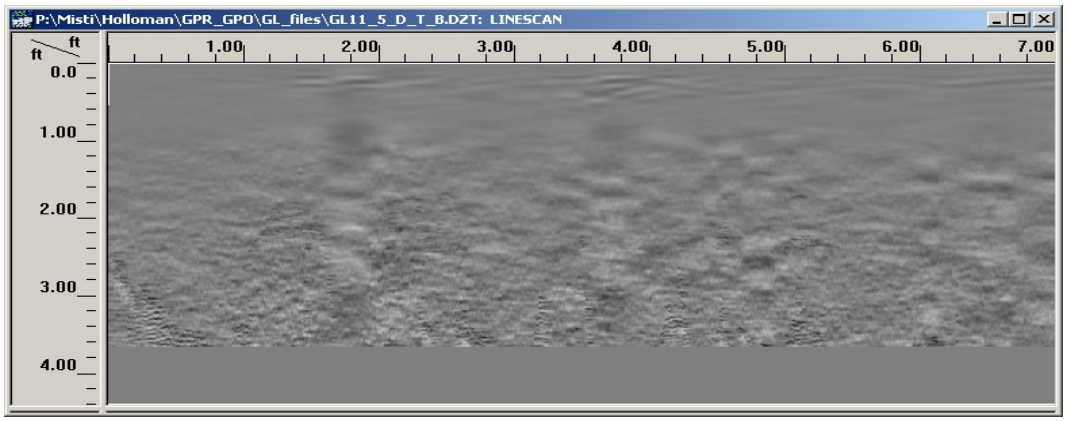
Profile 37

Line 11.0



Profile 38

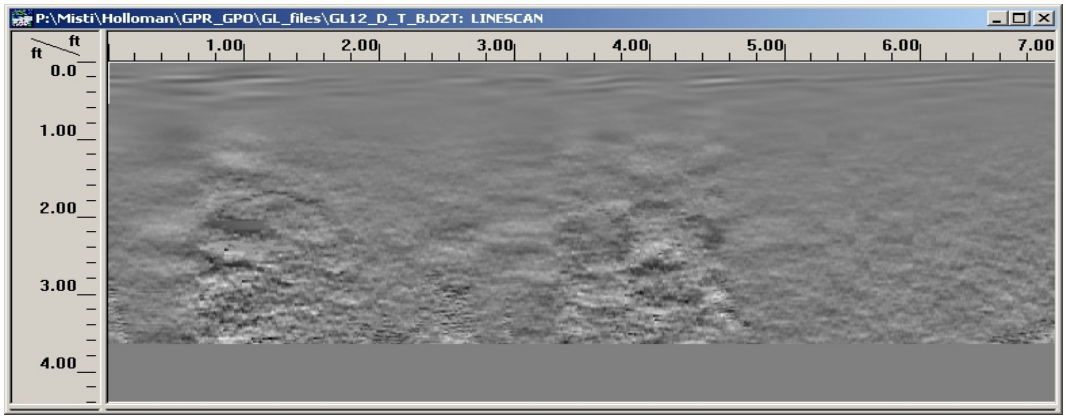
Line 11.5



Profile 39

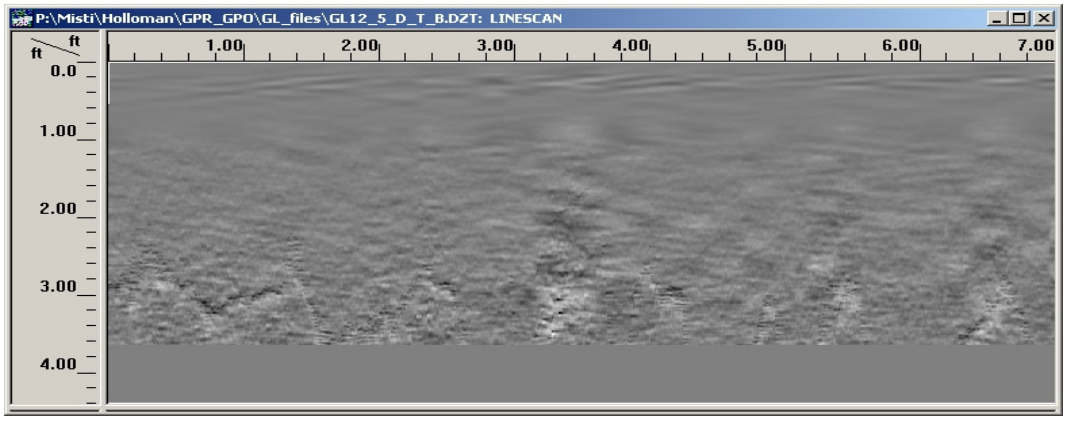
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 10.5, Line 11.0, Line 11.5 West to East Holloman Air Force Base, New Mexico	GPR - Sheet 13 Project No. 0401.008 File: GPR_Profiles Date: June 2004

Line 12.0



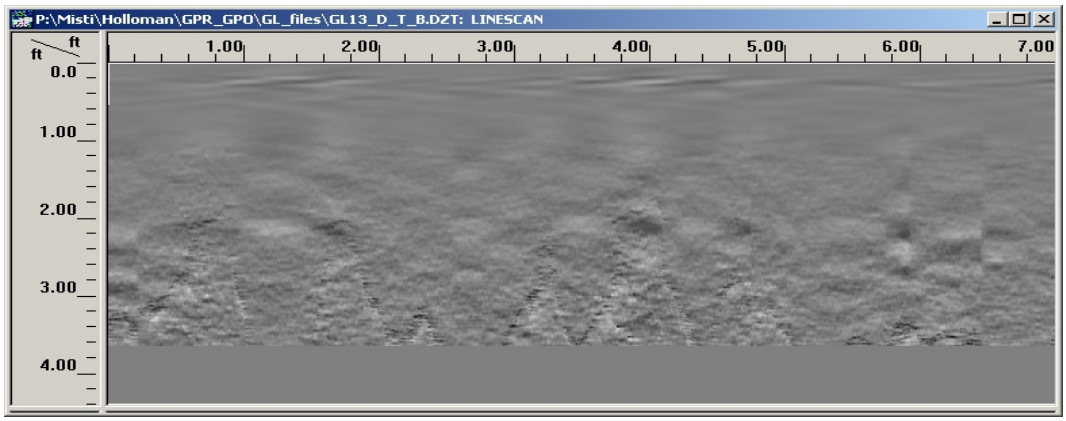
Profile 40

Line 12.5



Profile 41

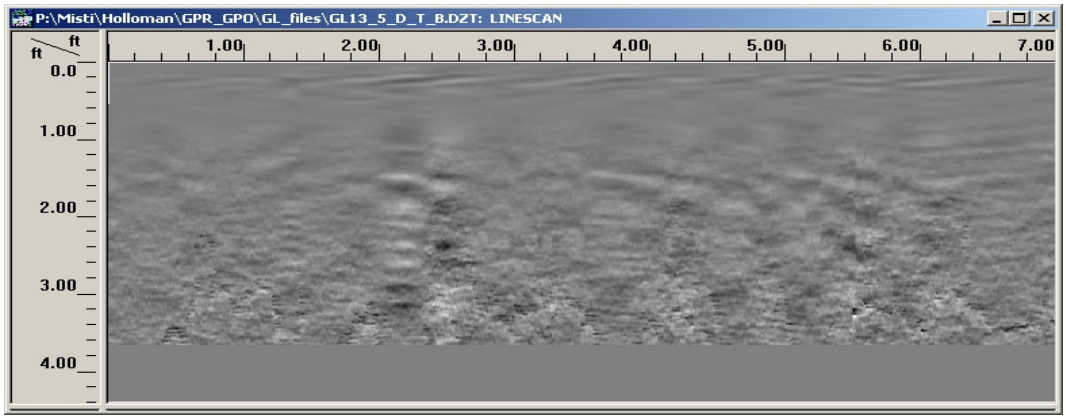
Line 13.0



Profile 42

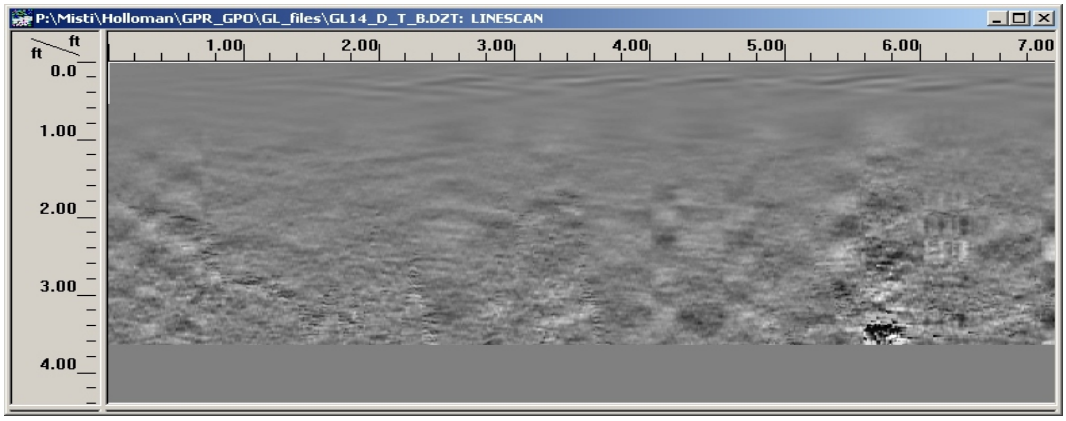
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 12.0, Line 12.5, Line 13.0 West to East Holloman Air Force Base, New Mexico	GPR - Sheet 14 Project No. 0401.008 File: GPR_Profiles Date: June 2004

Line 13.5



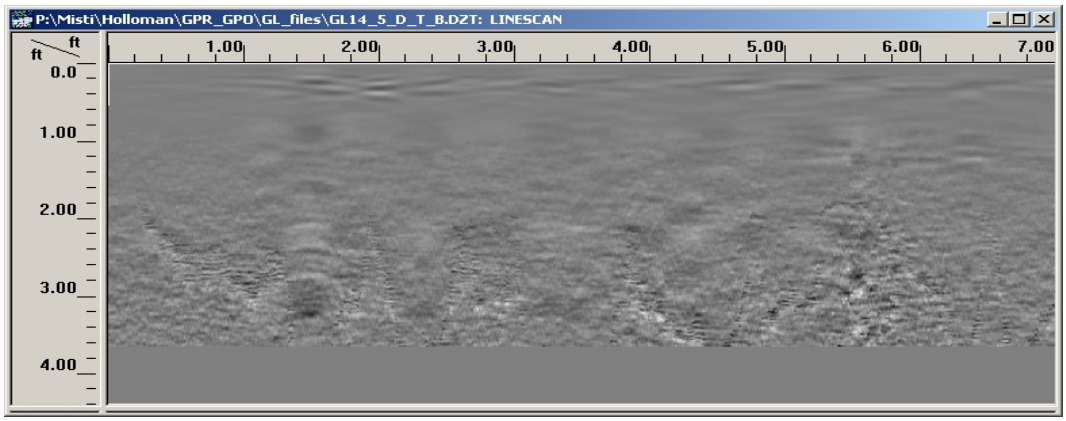
Profile 43

Line 14.0



Profile 44

Line 14.5



Profile 45

BLACKHAWK Geophysical & UXO Services
a division of Blackhawk GeoServices

Processed GPR Data
900 MHz Antenna - SIR 10B
Line 13.5, Line 14.0, Line 14.5
West to East
Holloman Air Force Base, New Mexico

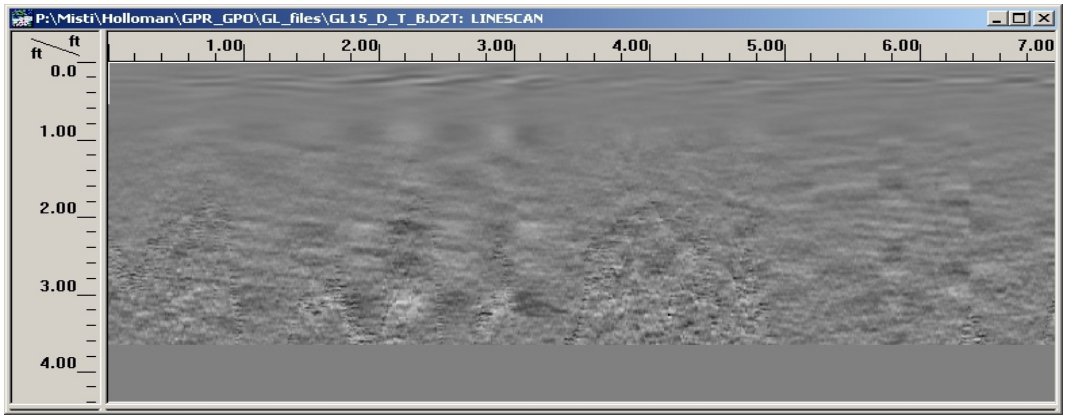
GPR - Sheet 15

Project No. 0401.008

File: GPR_Profiles

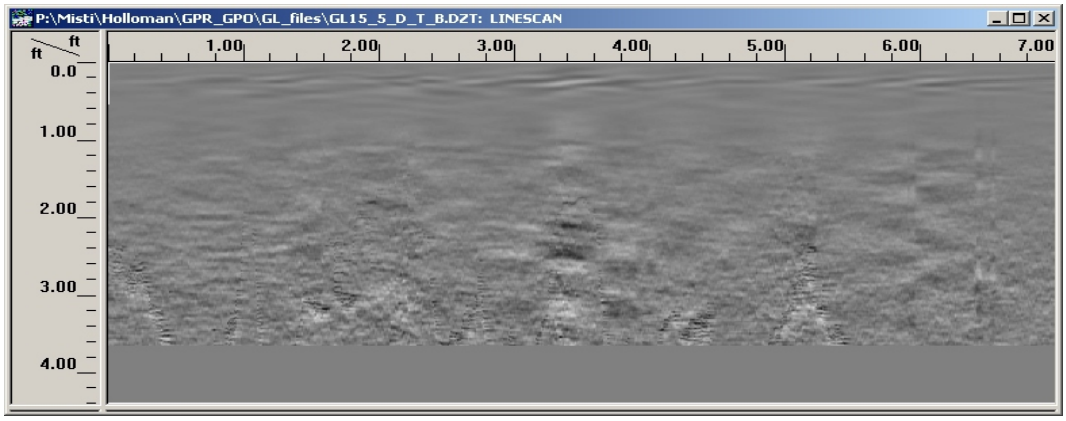
Date: June 2004

Line 15.0



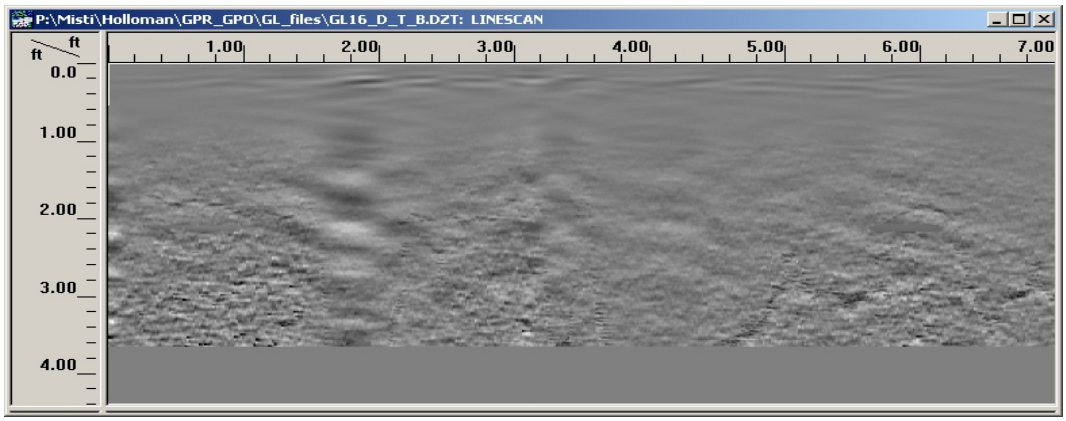
Profile 46

Line 15.5



Profile 47

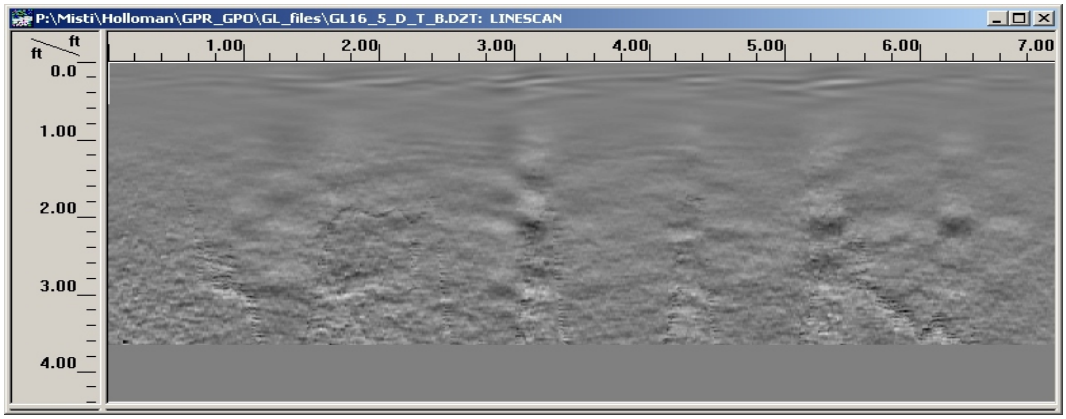
Line 16.0



Profile 48

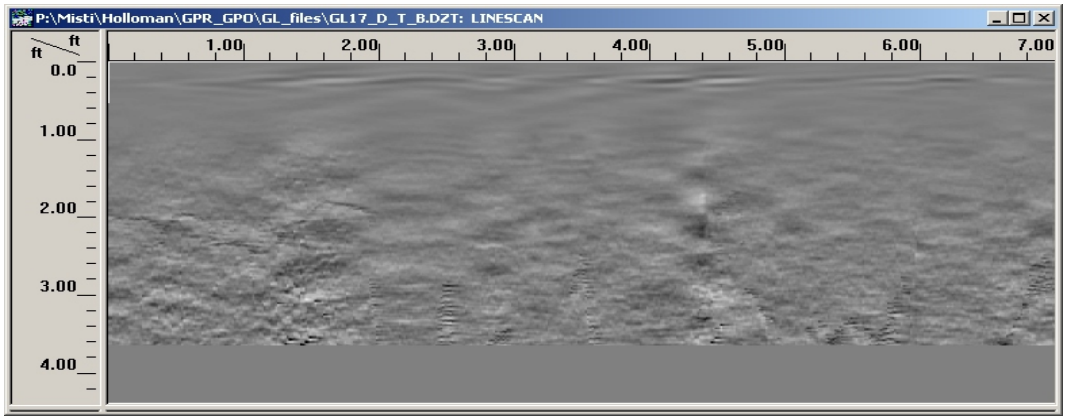
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 15.0, Line 15.5, Line 16.0 West to East Holloman Air Force Base, New Mexico	GPR - Sheet 16
		Project No. 0401.008
		File: GPR_Profiles
		Date: June 2004

Line 16.5



Profile 49

Line 17.0



Profile 50

BLACKHAWK Geophysical & UXO Services
a division of Blackhawk GeoServices

Processed GPR Data
900 MHz Antenna - SIR 10B
Line 16.5, Line 17.0
West to East
Holloman Air Force Base, New Mexico

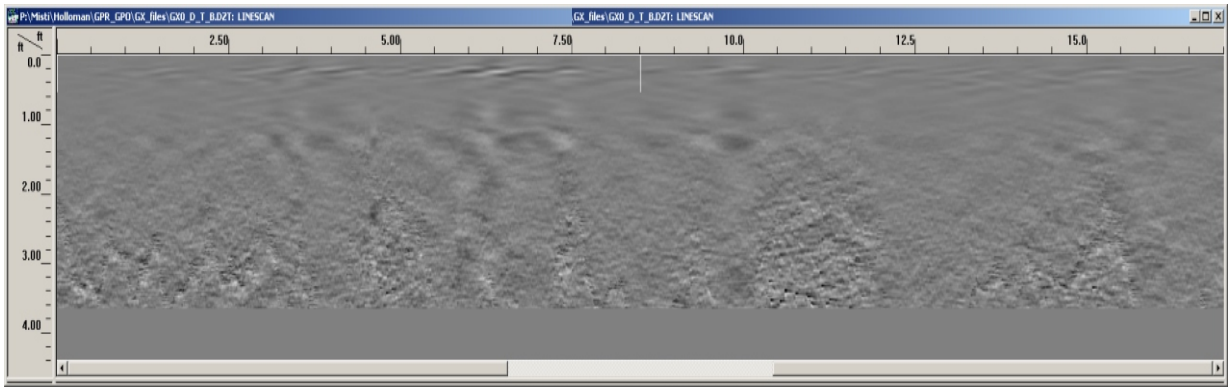
GPR - Sheet 17

Project No. 0401.008

File: GPR_Profiles

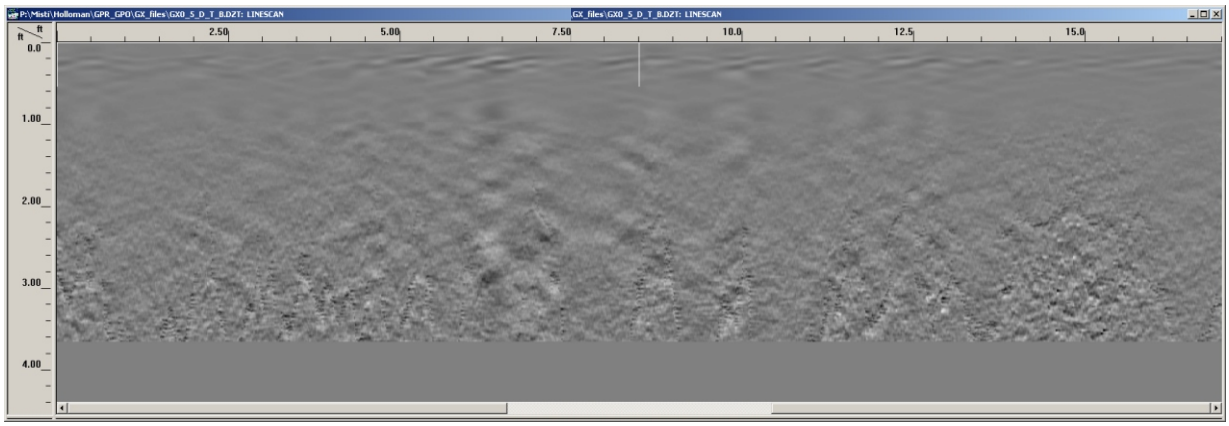
Date: June 2004

Line 0.0



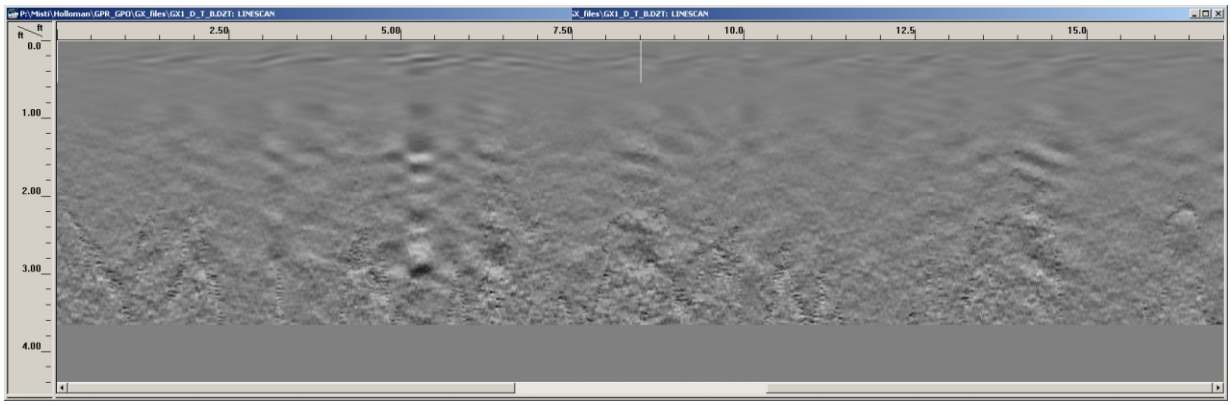
Profile 51

Line 0.5



Profile 52

Line 1.0



Profile 53

BLACKHAWK Geophysical & UXO Services
a division of Blackhawk GeoServices

Processed GPR Data
900 MHz Antenna - SIR 10B
Line 0, Line 0.5, Line 1.0
South to North
Holloman Air Force Base, New Mexico

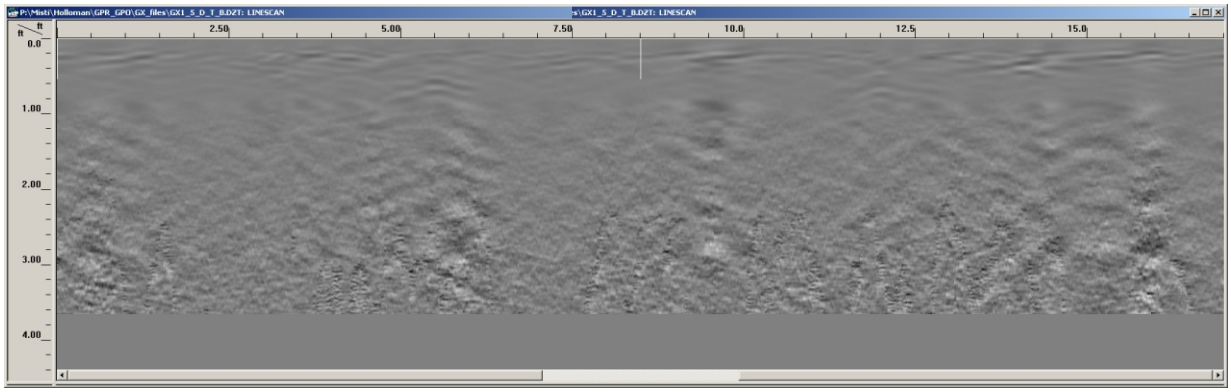
GPR - Sheet 18

Project No. 0401.008

File: GPR_Profiles

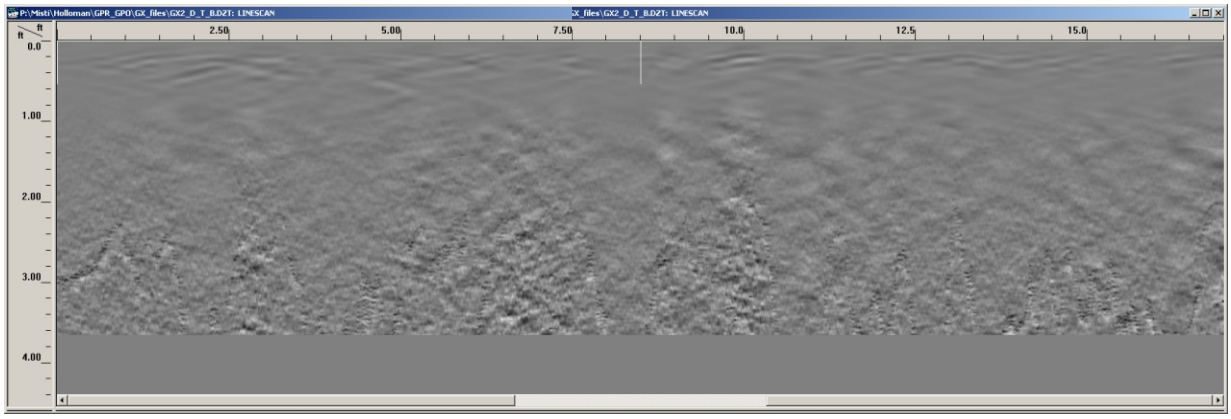
Date: June 2004

Line 1.5



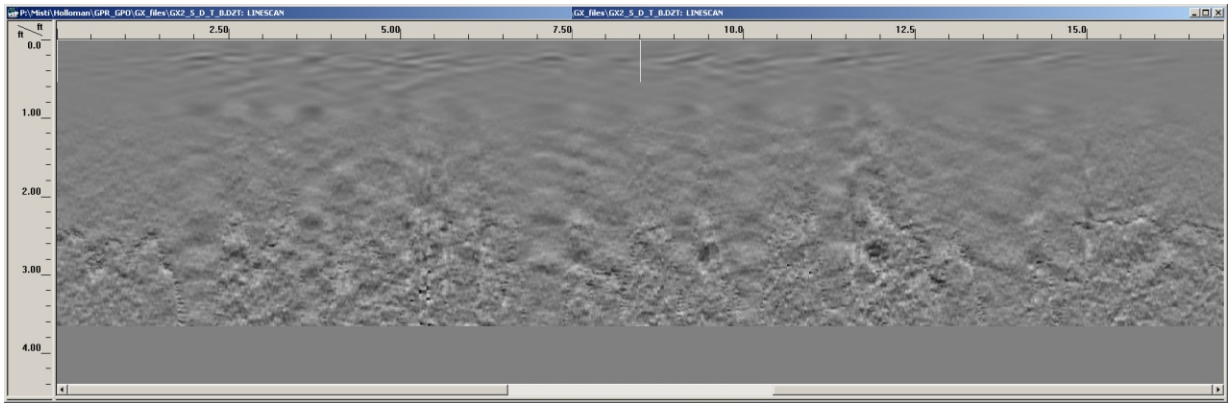
Profile 54

Line 2.0



Profile 55

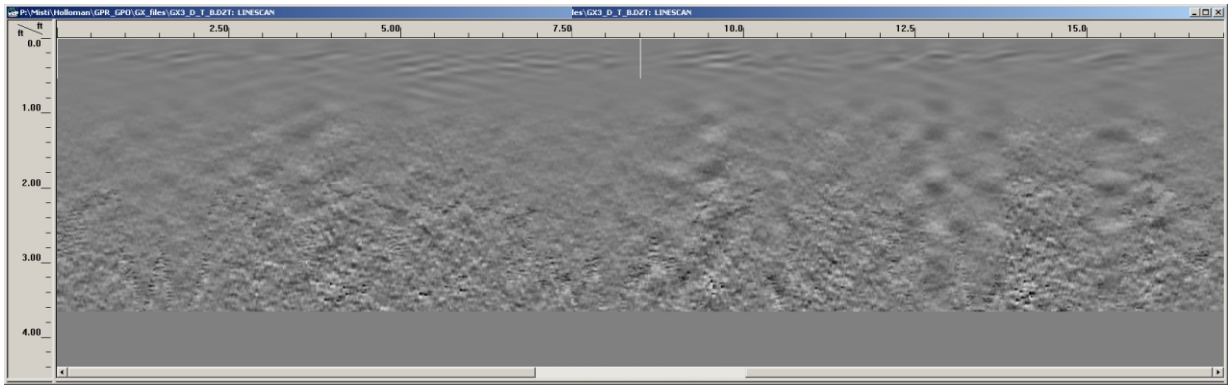
Line 2.5



Profile 56

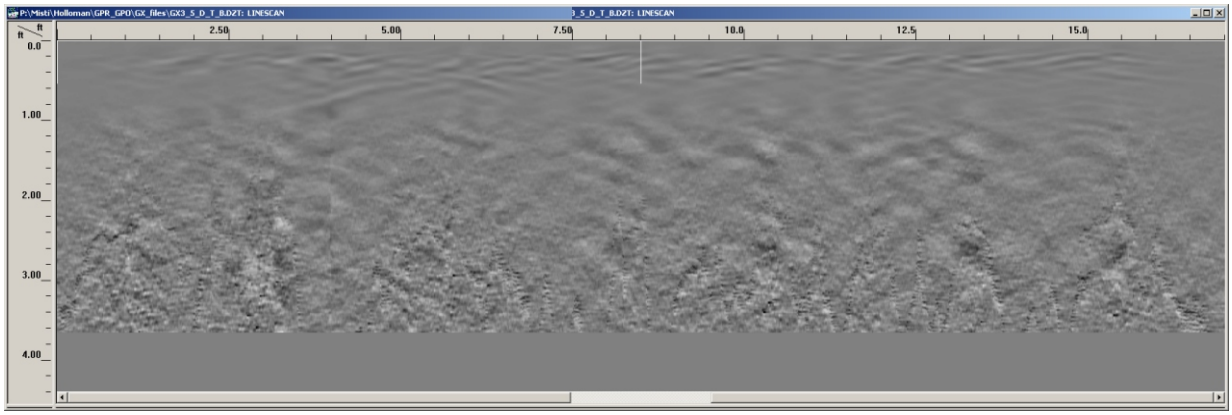
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 1.5, Line 2.0, Line 2.5 South to North Holloman Air Force Base, New Mexico	GPR - Sheet 19
		Project No. 0401.008
		File: GPR_Profiles
		Date: June 2004

Line 3.0



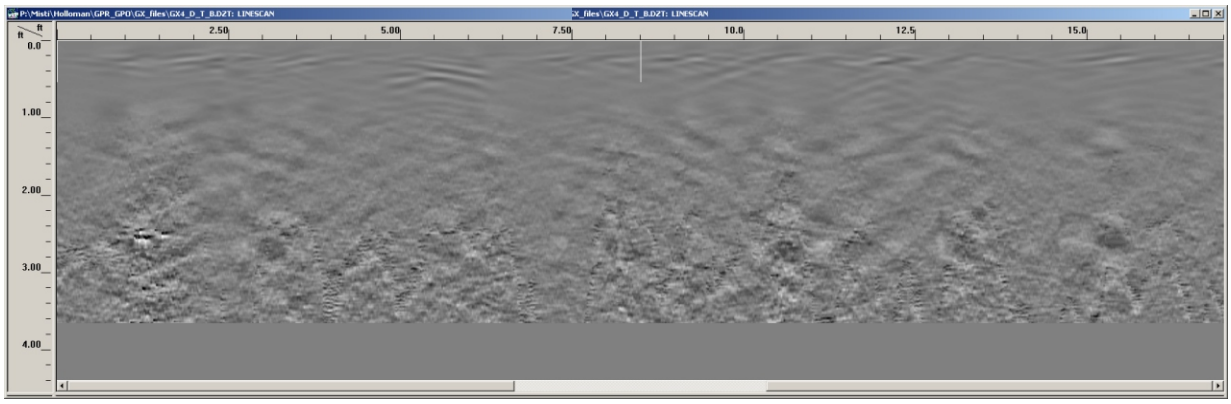
Profile 57

Line 3.5



Profile 58

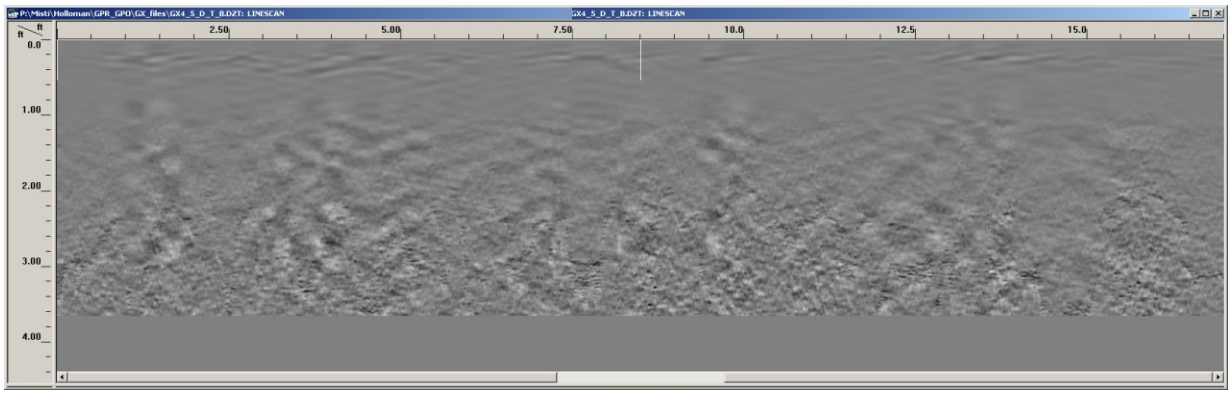
Line 4.0



Profile 59

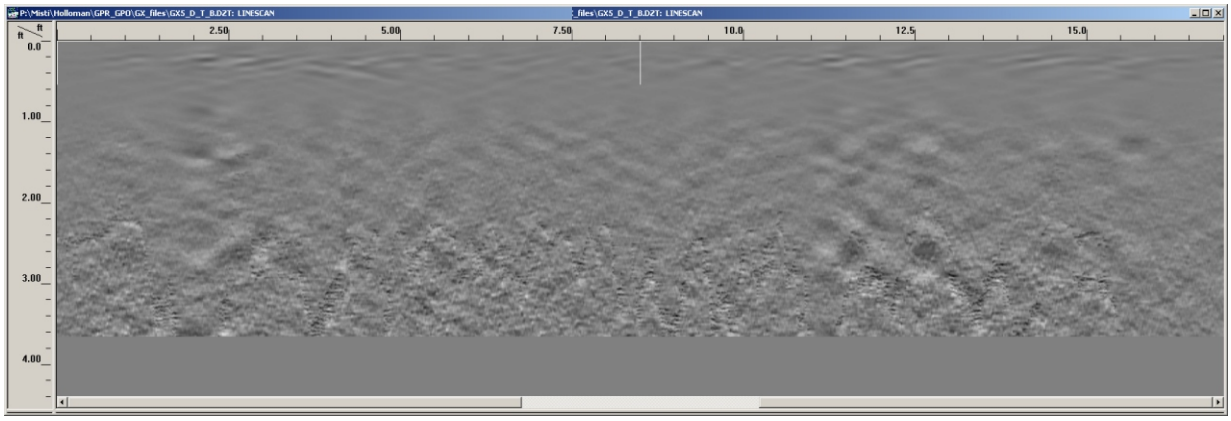
BLACKHAWK Geophysical & UXO Services a division of Blackhawk GeoServices	Processed GPR Data 900 MHz Antenna - SIR 10B Line 3.0, Line 3.5, Line 4.0 South to North Holloman Air Force Base, New Mexico	GPR - Sheet 20 Project No. 0401.008 File: GPR_Profiles Date: June 2004

Line 4.5



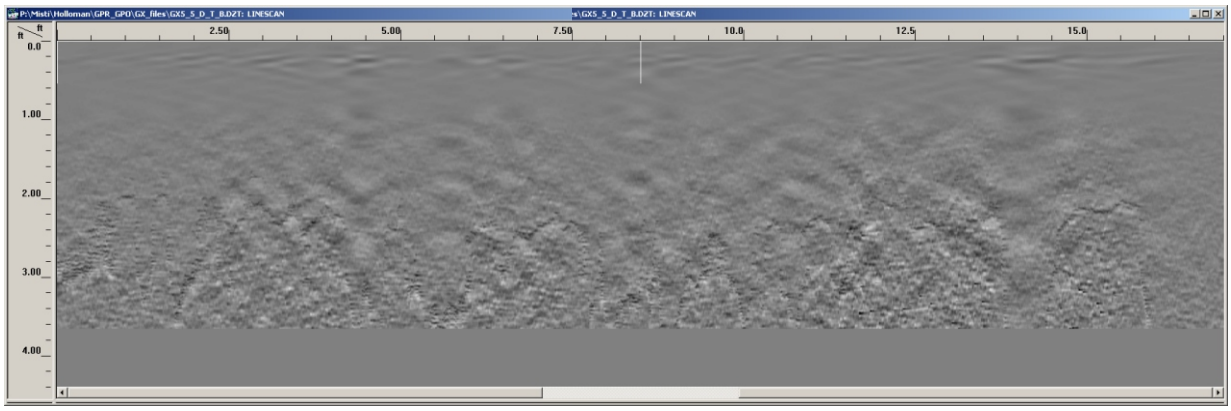
Profile 60

Line 5.0



Profile 61

Line 5.5



Profile 62

BLACKHAWK Geophysical & UXO Services
a division of Blackhawk GeoServices

Processed GPR Data
900 MHz Antenna - SIR 10B
Line 4.5, Line 5.0, Line 5.5
South to North
Holloman Air Force Base, New Mexico

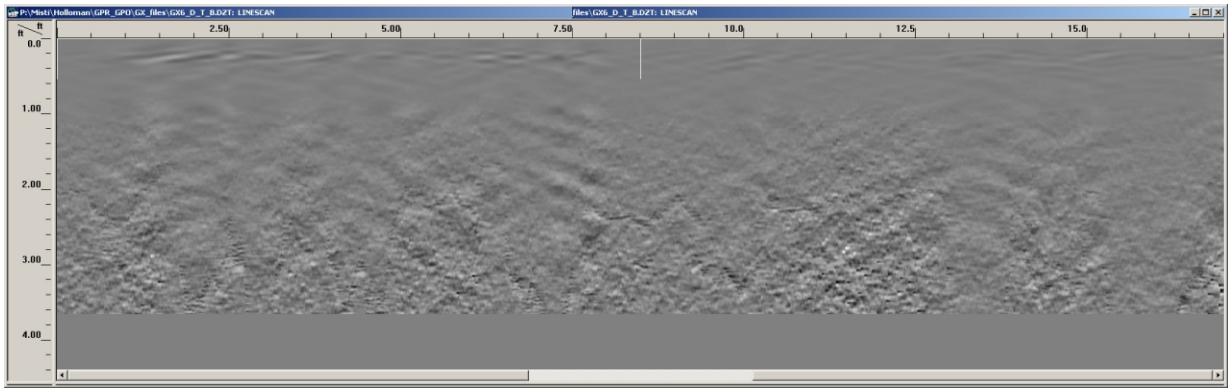
GPR - Sheet 21

Project No. 0401.008

File: GPR_Profiles

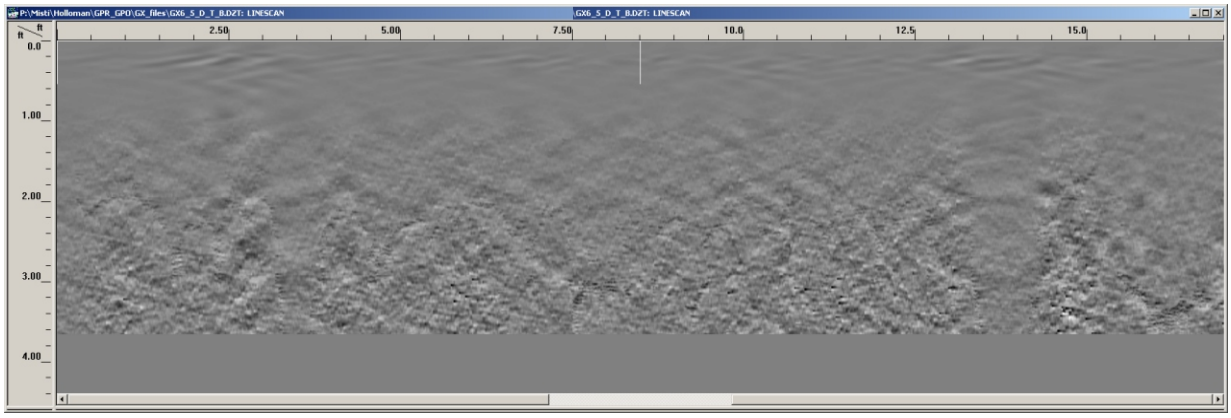
Date: June 2004

Line 6.0



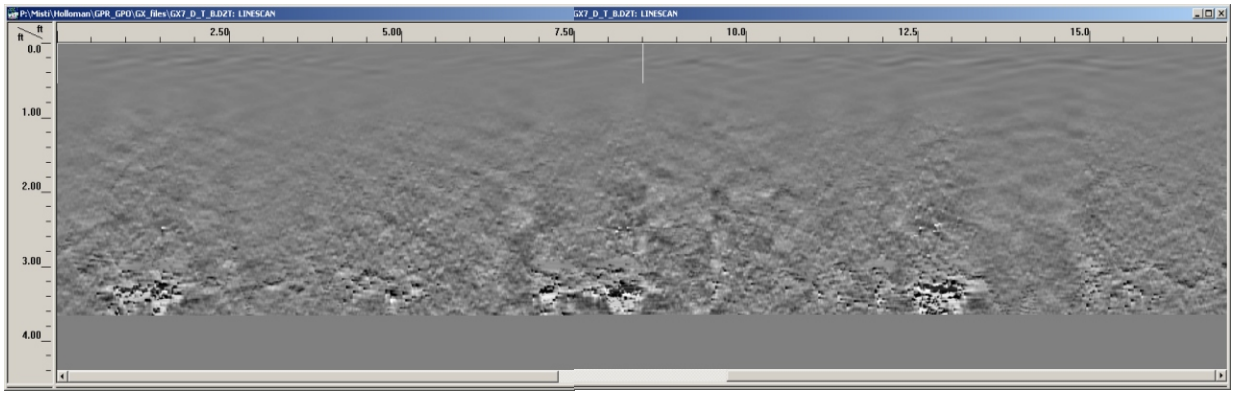
Profile 63

Line 6.5



Profile 64

Line 7.0



Profile 65

BLACKHAWK Geophysical & UXO Services
a division of Blackhawk GeoServices

Processed GPR Data
900 MHz Antenna - SIR 10B
Line 6.0, Line 6.5, Line 7.0
South to North
Holloman Air Force Base, New Mexico

GPR - Sheet 22

Project No. 0401.008

File: GPR_Profiles

Date: June 2004

Attachment D

QA and QC Spreadsheets

STATIC_STANDARD TEST_AM									LATENCY TEST	
Date	File Name	Coil	Statistics for 100% of data		Statistics for 97.5% of data		Standard Test		Latency_am Test	
5/17/2004	051704_stand_am	**Static_1** Left Coil	Number of values	2857	Number of values	2715	Number of values	2930	Easting	399414.58
			Minimum	-4.5	Minimum	**-1.69**	Minimum	35.25	Northing	3636943.81
			Maximum	6	Maximum	**1.5**	Maximum	79.5	Peak	**124.5**
			Mean	0.04756	Mean	0.05378	Mean	**48.615**		
			Median	0	Median	0	Median	47.25		
			Standard deviation	**0.9523**	Standard deviation	**0.7373**	Standard deviation	6.3075		
5/17/2004	051704_stand_am	**Static_2** Left Coil	Number of values	2277	Number of values	2165				
			Minimum	-3.75	Minimum	**-2.06**				
			Maximum	5.25	Maximum	**2.25**				
			Mean	0.03997	Mean	0.02351				
			Median	0	Median	0				
			Standard deviation	**1.076**	Standard deviation	**0.8504**				
5/17/2004	051704_stand_am	**Static_1** Center Coil	Number of values	2857	Number of values	2715	Number of values	2990		
			Minimum	-2.81	Minimum	**-1.13**	Minimum	199.5		
			Maximum	3.56	Maximum	**1.31**	Maximum	231		
			Mean	-0.01681	Mean	-0.01935	Mean	**209.579**		
			Median	0	Median	0	Median	207.75		
			Standard deviation	**0.6135**	Standard deviation	**0.4834**	Standard deviation	5.97122		
5/17/2004	051704_stand_am	**Static_2** Center Coil	Number of values	2271	Number of values	2159				
			Minimum	-2.62	Minimum	**-1.31**				
			Maximum	4.31	Maximum	**1.5**				
			Mean	0.0289	Mean	0.01412				
			Median	0	Median	0				
			Standard deviation	**0.6902**	Standard deviation	**0.5398**				
5/17/2004	051704_stand_am	**Static_1** Right Coil	Number of values	2849	Number of values	2707	Number of values	2781		
			Minimum	-2.06	Minimum	**-0.75**	Minimum	87		
			Maximum	2.44	Maximum	**0.75**	Maximum	105.56		
			Mean	-0.06418	Mean	-0.0665	Mean	**92.3262**		
			Median	0	Median	0	Median	92.06		
			Standard deviation	**0.4338**	Standard deviation	**0.37**	Standard deviation	2.10811		
5/17/2004	051704_stand_am	**Static_2** Right Coil	Number of values	2277	Number of values	2165				
			Minimum	-2.25	Minimum	**-0.75**				
			Maximum	2.25	Maximum	**0.75**				
			Mean	-0.01728	Mean	-0.0225				
			Median	0	Median	0				
			Standard deviation	**0.4976**	Standard deviation	**0.424**				

6-LINE TEST (Statistics for all three coils)						
Date	LINE	PASE	Statistics for 100% of data		Statistics for 97.5% of data	
5/17/2004	South-North	**Normal**	Number of values	786	Number of values	748
			Minimum	-6.19	Minimum	-3
			Maximum	7.5	Maximum	3.75
			Mean	0.06677	Mean	0.03433
			Median	0	Median	0
			Standard deviation	1.733	Standard deviation	1.407
5/17/2004	North_South	**Normal**	Number of values	726	Number of values	690
			Minimum	-6.75	Minimum	-3.75
			Maximum	7.5	Maximum	3.19
			Mean	-0.1109	Mean	-0.1325
			Median	0	Median	0
			Standard deviation	1.746	Standard deviation	1.456
5/17/2004	South-North	**Normal with target**	True Target Location	Easting 399414.44	True Target Location	Northing 3636943.83
			Highest Peak Location	Easting 399414.63	Highest Peak Location	Northing 3636943.95
			Difference	**-0.19**	Difference	**-0.12**
			Peak Reading		**138.56mV**	
5/17/2004	North_South	**Normal with target**	True Target Location	Easting 399414.44	True Target Location	Northing 3636943.83
			Highest Peak Location	Easting 399414.55	Highest Peak Location	Northing 3636943.85
			Difference	**-0.11**	Difference	**-0.02**
			Peak Reading		**136.50mV**	
5/17/2004	South-North	**Fast with target**	True Target Location	Easting 399414.44	True Target Location	Northing 3636943.83
			Highest Peak Location	Easting 399414.55	Highest Peak Location	Northing 3636943.88
			Difference	**-0.11**	Difference	**-0.05**
			Peak Reading		**138.56mV**	
5/17/2004	North_South	**Slow with target**	True Target Location	Easting 399414.44	True Target Location	Northing 3636943.83
			Highest Peak Location	Easting 399414.61	Highest Peak Location	Northing 3636943.85
			Difference	**-0.17**	Difference	**-0.02**
			Peak Reading		**138.00mV**	

			STATIC_STANDARD TEST						LATENCY TEST	
Date	File Name	Coil	Statistics for 100% of data		Statistics for 97.5% of data		Standard Test		Latency_pm Test	
5/17/2004	051704_stand_pm	**Static_1** Left Coil	Number of values	2877	Number of values	2735	Number of values	3189	Easting	399414.58
			Minimum	-3	Minimum	**-1.5**	Minimum	39.75	Northing	3636943.96
			Maximum	3.38	Maximum	**1.5**	Maximum	69	Peak	**145.5**
			Mean	0.01745	Mean	0.02101	Mean	**49.395**		
			Median	0	Median	0	Median	49.31		
			Standard deviation	**0.7014**	Standard deviation	**0.5584**	Standard deviation	3.1255		
5/17/2004	051704_stand_pm	**Static_2** Left Coil	Number of values	2594	Number of values	2466				
			Minimum	-7.5	Minimum	**-3**				
			Maximum	9	Maximum	**3.56**				
			Mean	0.04602	Mean	0.03245				
			Median	0	Median	0				
			Standard deviation	**1.463**	Standard deviation	**1.058**				
5/17/2004	051704_stand_pm	**Static_1** Center Coil	Number of values	2845	Number of values	2703	Number of values	3157		
			Minimum	-4.5	Minimum	**-2.25**	Minimum	200.81		
			Maximum	6.75	Maximum	**2.25**	Maximum	214.31		
			Mean	-0.02052	Mean	-0.02914	Mean	**207.377**		
			Median	0	Median	0	Median	207		
			Standard deviation	**0.9787**	Standard deviation	**0.7075**	Standard deviation	2.15285		
5/17/2004	051704_stand_pm	**Static_2** Center Coil	Number of values	2611	Number of values	2481				
			Minimum	-4.69	Minimum	**-2.81**				
			Maximum	4.5	Maximum	**2.25**				
			Mean	-0.01527	Mean	-0.01328				
			Median	0	Median	0				
			Standard deviation	**1.028**	Standard deviation	**0.7312**				
5/17/2004	051704_stand_pm	**Static_1** Right Coil	Number of values	2845	Number of values	2703	Number of values	3063		
			Minimum	-3	Minimum	**-1.5**	Minimum	86.62		
			Maximum	3.38	Maximum	**1.5**	Maximum	96		
			Mean	0.01679	Mean	0.02036	Mean	**91.459**		
			Median	0	Median	0	Median	91.5		
			Standard deviation	**0.7035**	Standard deviation	**0.5594**	Standard deviation	1.6052		
5/17/2004	051704_stand_pm	**Static_2** Right Coil	Number of values	2598	Number of values	2470				
			Minimum	-3.56	Minimum	**-1.5**				
			Maximum	3.75	Maximum	**1.5**				
			Mean	0.01557	Mean	0.01661				
			Median	0	Median	0				
			Standard deviation	**0.7044**	Standard deviation	**0.53**				

			STATIC_STANDARD TEST_AM						LATENCY TEST	
Date	File Name	Coil	Statistics for 100% of data		Statistics for 97.5% of data		Standard Test		Latency_am Test	
5/21/2004	052104_stand_am	**Static_1** Left Coil	Number of values	7652	Number of values	7270	Number of values	4487	Easting	399414.61
			Minimum	-6	Minimum	-2.25	Minimum	29.25	Northing	3636943.88
			Maximum	7.12	Maximum	2.25	Maximum	90	Peak	149.25
			Mean	0.006555	Mean	0.001582	Mean	42.981		
			Median	0	Median	0	Median	42.75		
			Standard deviation	1.109	Standard deviation	0.8407	Standard deviation	2.7898		
5/21/2004	052104_stand_am	**Static_2** Left Coil	Number of values	4225	Number of values	4015				
			Minimum	-6.19	Minimum	-2.25				
			Maximum	6	Maximum	2.25				
			Mean	0.007543	Mean	0.01317				
			Median	0	Median	0				
			Standard deviation	1.222	Standard deviation	0.9854				
5/21/2004	052104_stand_am	**Static_1** Center Coil	Number of values	7675	Number of values	7293	Number of values	4258		
			Minimum	-3.75	Minimum	-1.5	Minimum	201.75		
			Maximum	11.25	Maximum	1.5	Maximum	217.5		
			Mean	0.019091	Mean	0.008427	Mean	208.117		
			Median	0	Median	0	Median	208.12		
			Standard deviation	0.78697	Standard deviation	0.5987	Standard deviation	1.62462		
5/21/2004	052104_stand_am	**Static_2** Center Coil	Number of values	4237	Number of values	4027				
			Minimum	-5.25	Minimum	-1.5				
			Maximum	3	Maximum	1.5				
			Mean	-0.01292	Mean	-0.008061				
			Median	0	Median	0				
			Standard deviation	0.8423	Standard deviation	0.7046				
5/21/2004	052104_stand_am	**Static_1** Right Coil	Number of values	7649	Number of values	7267	Number of values	4315		
			Minimum	-2.25	Minimum	-0.75	Minimum	87		
			Maximum	3	Maximum	0.75	Maximum	96		
			Mean	0.007214	Mean	0.0037	Mean	90.794		
			Median	0	Median	0	Median	90.75		
			Standard deviation	0.4983	Standard deviation	0.397	Standard deviation	1.0315		
5/21/2004	052104_stand_am	**Static_2** Right Coil	Number of values	4212	Number of values	4002				
			Minimum	-3.19	Minimum	-0.94				
			Maximum	2.25	Maximum	0.75				
			Mean	-0.02201	Mean	-0.0206				
			Median	0	Median	0				
			Standard deviation	0.5408	Standard deviation	0.451				

			STATIC_STANDARD TEST						LATENCY TEST		REPEAT LINE TEST		
Date	File Name	Coil	Statistics for 100% of data		Statistics for 97.5% of data		Standard Test		Latency_pm Test				
5/21/2004	052104_stand_pm	**Static_1** Left Coil	Number of values	3338	Number of values	3072	Number of values	5498	Easting	399414.53	First Data Line	Number of values	2397
			Minimum	-7.5	Minimum	-3	Minimum	33	Northing	3636943.87		Minimum	-5.25
			Maximum	6.94	Maximum	2.25	Maximum	63	Peak	147.56		Maximum	8.25
			Mean	0.02722	Mean	-0.08699	Mean	45.486				Mean	0.02008
			Median	0	Median	0	Median	45				Median	0
			Standard deviation	1.526	Standard deviation	1.069	Standard deviation	4.1077				Standard deviation	1.307
5/21/2004	052104_stand_pm	**Static_2** Left Coil	Number of values	2713	Number of values	2579							
			Minimum	-7.5	Minimum	-3.75							
			Maximum	9	Maximum	3					Repeat Line	Number of values	2418
			Mean	-0.03729	Mean	-0.02584						Minimum	-4.5
			Median	0	Median	0						Maximum	6
			Standard deviation	1.448	Standard deviation	1.015						Mean	0.03746
5/21/2004	052104_stand_pm	**Static_1** Center Coil	Number of values	3373	Number of values	3205	Number of values	5563				Median	0
			Minimum	-5.06	Minimum	-2.25	Minimum	194.25				Standard deviation	1.264
			Maximum	4.87	Maximum	2.25	Maximum	219					
			Mean	0.009253	Mean	-0.004718	Mean	203.825					
			Median	0	Median	0	Median	203.25					
			Standard deviation	1.052	Standard deviation	0.8041	Standard deviation	3.08192					
5/21/2004	052104_stand_pm	**Static_2** Center Coil	Number of values	2797	Number of values	2659							
			Minimum	-5.25	Minimum	-2.25							
			Maximum	6	Maximum	2.25							
			Mean	-0.0311	Mean	-0.02382							
			Median	0	Median	0							
			Standard deviation	1.014	Standard deviation	0.7339							
5/21/2004	052104_stand_pm	**Static_1** Right Coil	Number of values	3409	Number of values	3239	Number of values	5756					
			Minimum	-2.44	Minimum	-1.5	Minimum	66.94					
			Maximum	6	Maximum	1.5	Maximum	119.25					
			Mean	-0.01408	Mean	-0.02401	Mean	79.0487					
			Median	0	Median	0	Median	78.75					
			Standard deviation	0.7481	Standard deviation	0.6204	Standard deviation	3.98696					
5/21/2004	052104_stand_pm	**Static_2** Right Coil	Number of values	2893	Number of values	2749							
			Minimum	-3.75	Minimum	-1.69							
			Maximum	6	Maximum	1.5							
			Mean	0.008597	Mean	0.01063							
			Median	0	Median	0							
			Standard deviation	0.7926	Standard deviation	0.5832							

APPENDIX D
GEOPHYSICAL SURVEY REPORT

DRAFT REPORT

RESULTS OF THE MTADS EM61 GEOPHYSICAL SURVEY HOLLOMAN AIR FORCE BASE ALAMOGORDO, NEW MEXICO

Blackhawk Geophysical and UXO Services
Project Number 0401.008

RESULTS OF THE MTADS EM61 GEOPHYSICAL SURVEY
HOLLOMAN AIR FORCE BASE
ALAMOGORDO, NEW MEXICO

Blackhawk Geophysical and UXO Services Project Number 0401.008

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June 2004

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FIGURES

FIGURE 1 – SITE LOCATION MAP

FIGURE 2 – MTADS EM61 GPO GRID

FIGURE 3 – MTADS EM61 GEOPHYSICAL SURVEY

APPENDIX A – QC TEST PROFILES

1.0 INTRODUCTION

This report covers the procedures and results of the electromagnetic (EM) geophysical investigation of a site located on the Holloman Air Force Base, Alamogordo, New Mexico. The work was performed by Blackhawk Geophysical and UXO Services (Blackhawk) for Zapata Engineering (Zapata) from June 8, 2004 to June 10, 2004.

The objective of the geophysical survey was to perform a non-intrusive investigation over approximately five acres to locate subsurface metallic targets that are potential K951/K952 CAIS (pigs) or their associated 9-inch metal cans. The electromagnetic (EM) array of the Multi-sensor Towed Array Detection System (MTADS) was used to geophysically map metallic objects within the project area. The MTADS EM61 was pulled by a Mobile Instrument Platform (MIP).

The EM metal detection system was employed because of its ability to detect both ferrous and non-ferrous metal objects with a high lateral position resolution. Also, this system is more sensitive to buried metal and less sensitive to magnetic rocks and soils than the magnetic method, which is also commonly used to locate buried metal objects.

2.0 SURVEY LOGISTICS

2.1 Site Description

The terrain within the project area is relatively flat except for a few dirt mounds. The site encompassed approximately five acres and was surrounded by a chain-link fence to the north, east, and west. The fence was removed along the southern boundary of the site and had two out of every three fence posts removed. A landfill borders the site to the west. Cultural features at the site include two monitoring wells and a partially buried pipe. A site location map is presented as Figure 1.

Broken glass and one intact glass vial associated with the K951/K952 CAIS were found in the northeast section of the survey area before data collection began.

2.2 Site Activities

In order to obtain 100% coverage of the site, lines were planned spaced five feet apart. However, data collection was restricted in portions of the survey area due to obstructions such as dirt mounds, monitor wells, and a large yucca tree. Because of these obstructions, it was not always possible to maintain the desired 100% coverage. The line spacing was maintained by the equipment operator by driving along overlapping vehicle tracks.

2.3 Geophysical Equipment

2.3.1 MTADS EM61 Array

The MTADS EM61 array consists of three pairs of overlapping modified Geonics EM61 coils contained on a fiberglass trailer. This trailer was towed with a custom designed Mobile Instrument Platform (MIP). Data were collected by driving the array over the target area, searching a two-meter swath with each pass. MTADS EM61 data were collected at a rate of 16 Hertz (Hz) and recorded by an on-board computer. To obtain total coverage of the site, survey line spacing was approximately 1.52 m (five ft).

The EM array was towed at a speed of between three and five miles per hour resulting in an approximate data point spacing of 0.09 m (0.3 ft) and a maximum data point spacing of 0.15 m (0.5 ft) along survey lines.

Positioning for the MTADS EM61 was accomplished with the Trimble 4700 real time kinematic (RTK) differential global positioning system (DGPS). The DGPS antenna was positioned three feet above the bottom EM61 coils at the center of the coil assemblage. The 4700 receiver was located within the MIP and received data from both the DGPS antenna and from the DGPS base station. Positional data were recorded using the WGS-84 spheroid providing latitude and longitude readings at a frequency of 5 Hz.

Positional/navigational data and geophysical sensor data were displayed in real time on the computer screen allowing the operator to monitor the sensor position and the geophysical data quality. The geophysical and positioning data were sent to a data acquisition computer within the tow vehicle. The MTADS EM61 data was logged using

an industrial PC running Maglog logging software written by Geometrics, Inc. The data were stored on the hard drive of the computer for downloading at the end of the field day.

2.3.2 Sensor Positioning

Positioning for the MTADS EM61 system was accomplished with the Trimble 4700 RTK DGPS. With this system, the center points of sensor readings have a location error of 0.15 m (6 inches). Target anomalies are expected to have location error between 0.15 to 0.46 m (6 to 18 inches) due to the geophysical sensor width and line spacing. The DGPS receiver, located within the tow vehicle, received data from both the DGPS antenna and from the DGPS base station. As mentioned above, positional data were recorded using the WGS-84 spheroid in latitude and longitude.

The base station receiver was set up over a known control point and the spatial position correction was transmitted in real time to the DGPS rover receiver using a radio modem. The control point, labeled CP North, was used as the initial base for the geophysical survey. This point was located within one mile of the survey area. The location of this point was obtained from licensed New Mexico surveyors. For consistency, this position was used throughout the survey. All map data and target locations were reported in NAD83 UTM Zone 13N coordinates (meters). Table 1 lists the base station location.

TABLE 1

GPS BASE STATION LOCATION

Point	Northing (m)	Easting (m)
CP North	3637688.79	399529.84
	NAD83 UTM Zone 13N coordinates (meters)	

2.4 Quality Control

During data collection, the following steps were performed for quality control:

- A 15-minute warm-up for the geophysical sensors prior to data collection.
- The DGPS quality control index number and sensor data were monitored during data collection.
- Daily latency tests were performed to verify DGPS positioning, lag correction, and sensor operation.
- Daily standard tests were performed to verify sensor operation.

During data processing the following quality control steps were performed:

- The positional data were verified through the DGPS quality control index.
- Latency tests were processed to verify DGPS positioning, lag value, and sensor operation.

- Individual data streams were monitored for time gaps that may indicate sensor failure.
- Data coverage was monitored for gaps and total acreage surveyed.
- Data processing steps were tracked to ensure that all of the data were processed in the same manner. Additional processing steps (i.e., filtering) that proved useful in data analysis and target identification were identified.

2.5 Static/Standard Tests

Prior to geophysical data collection, sensor data were recorded in a stationary mode for three minutes. The deviation of the instrument readings was checked to make sure it was within +/- 2.5 mV.

A static/standard test was conducted twice a day, prior to and after data collection. The "standard" is a metal object used to simulate anomalous readings. The static/standard test consisted of a minimum of a nine minute record; three minute background, three minute standard, and an additional three minute background. After the initial background test was recorded, a metal standard was placed in exactly the same position on the EM coils and data were recorded for three minutes. The percent difference (from morning to evening) in the magnitude of the standard readings (standard reading minus background) was checked to make sure it was within +/- 20%. After the standard test, an additional background test was recorded for three minutes to check the instrument for repeatability. Profiles showing the static/standard test for data collected on June 8, 2004 are located in Appendix A. Tables detailing the daily standard tests for each system are located on the attached CD.

2.6 Latency/Position Tests

A trailer ball (2 5/16") was positioned in a known location to conduct the latency test. Daily latency tests were performed by collecting data in two directions over the trailer ball. The geophysical data were checked for positional accuracy, lag correction, and coil operation. In addition, to verify DGPS positioning in the field, the DGPS antenna was positioned over this point and the location given was compared to the known location. The trailer ball location is shown in Table 2. During processing, the DGPS location for the trailer ball was compared with the detected location and the positional differences were computed. Profiles showing the latency test performed on June 8, 2004 are located in Appendix A. Results of the latency tests are located on the attached CD.

TABLE 2 DGPS LATENCY LOCATION

Trailer Ball	Northing (m)	Easting (m)
Latency	3636943.83	399414.44
	NAD83 UTM Zone 13N coordinates (meters)	

2.7 Cable Shake Tests

The cable shake/vibration test was performed to verify that there were no electrical problems (breaks, short circuits) in the cables. Prior to data collection, the cables associated the MTADS EM61 were manually shaken. The shake test produced results that were acceptable and no faulty cables were discovered. The cable shake test profile performed on June 8, 2004 is shown in Appendix A.

3.0 DATA PROCESSING

3.1 Geophysical Data

The geophysical data were processed and interpreted using the MTADS data analysis software (DAS). All processing and data analysis steps were recorded on a tracking sheet. Hard copies of the MTADS DAS Tracking Sheets for this survey are located on the attached CD.

The processing stream for the MTADS EM data consisted of the following steps:

- Raw geophysical and GPS data for the MTADS EM system were downloaded from the field computers and integrated in the DAS preprocessor.
- The static tests were evaluated to ensure a deviation of less than +/- 2.5 mV.
- The QC standard tests were evaluated and coil readings were tracked in a spreadsheet. This spreadsheet is included on the attached CD.
- The latency tests were evaluated and the necessary lag corrections were applied to the data. Positional checks over the latency spikes were tracked in a spreadsheet. This spreadsheet is included on the attached CD. All latency corrections were recorded on the MTADS DAS Tracking Sheets.
- Individual EM data streams were evaluated for spikes, time gaps, and sensor failure.
- Low quality positional data points were edited or removed.
- Data coverage was evaluated for data gaps.
- The field notes were evaluated for cultural features.
- A demedian filter was applied to the geophysical data to remove sensor drift and level the data to a zero baseline. A 100-point average was used for the MTADS EM data.
- The data were gridded with a 0.2 m cell size and displayed on the screen in gridded and pixel format.
- Processed data were output in Geosoft XYZ ASCII format. Positioning data were reported in NAD83 UTM Zone 13N coordinates (meters). Preliminary data sets were delivered to the Zapata Project Manager during the field survey and uploaded to the Zapata web site. Final data sets were delivered on CD-ROM after the completion of the fieldwork.
- MTADS EM61 site data were filtered with a 0.4 m width low pass boxcar filter to smooth the data and enhance target anomalies.

- Preliminary targets were selected using gridded data from the lower coil. This was accomplished by applying a peak-picking algorithm with a threshold value of 17 mV for the MTADS EM61 data. Preliminary target lists were submitted to Zapata for review. Electronic files of the preliminary target lists are included on the attached CD.
- The preliminary targets were evaluated by the processor. All existing data displays were reviewed, including pixel, gridded, and filtered data. Targets whose amplitudes were lower than 17mV, but close to the discovered glass vials were added to the target list.
- Final target lists were generated from the modeled targets. Positioning data were reported in NAD83 UTM Zone 13N coordinates (meters). Final target lists were submitted to Zapata for review. Electronic files of the final target lists are included on the attached CD.

3.2 Preliminary Target Lists

The MTADS DAS was used to pick potential targets using data from the lower coil of the EM instrument. A peak-picking algorithm was applied to the gridded and filtered data as the initial step in target selection.

After evaluation of the MTADS EM61 data, a threshold value of 17mV was determined to be best for target picking after analyzing GPO results and after discussions with Zapata and Army Corps of Engineers personnel. A preliminary target list was generated and a total of 136 targets were picked from the MTADS data with a threshold greater than 17mV.

3.3 Final Target Lists

Final target lists were generated from the preliminary targets. The preliminary targets were reviewed and many were removed from the target lists for the following reasons:

- They were located over cultural features that were reported by the Blackhawk field crew.
- The anomalies were found to result from small (one or two pixels) spikes in the EM data.
- The anomalies were found to result from gridding or edge effects from the mapping software.

The target list was prioritized in the field using the following criteria:

- Proximity to the glass vials found on the surface.
- Magnitude of the peak reading.

Another target list was generated and seven additional targets were added that were close to the discovered vials, but had anomaly amplitudes that were less than 17 mV. Some of these targets were picked whose amplitudes were as low as 4 mV. Targets106 and 107 were dual picks of the same target and target 106 was removed. Therefore, the total number of targets was 142 (136 preliminary targets plus 7 added close to the glass vials minus 1 dual picked target). This target list was the one that was used for relocation.

The target lists along with all raw and processed data can be found on the attached CD.

4.0 SURVEY RESULTS

4.1 Data Coverage

4.1.1 GPO Grid

Data were collected over the GPO grid containing the seeded items on June 8, 2004 before data collection began over the survey area. Figure 2 shows a color grid contour map of the MTADS EM61 data collected over the GPO grid. The figure depicts the MTADS EM61 data in NAD83 UTM Zone 13N coordinates (meters). All seeded targets were identified with the MTADS EM61.

4.1.2 Survey Area

Data were collected over the survey area on June 8, 2004. Figure 3 illustrates a color grid contour map of the MTADS EM61 data collected over the survey area. The figure depicts the EM61 data in NAD83 UTM Zone 13N coordinates (meters). A total of 4.6 acres were surveyed with the MTADS EM61 array.

Data were collected on June 9, 2004, in order to cover gaps in the existing data coverage. Prior to collecting this data, the equipment was modified by exchanging the center coil of the EM system. Quality control tests (static/standard test, latency test, cable shake test, six line test) were completed after the equipment change and a portion of the GPO grid was collected again to ensure that the equipment was working properly. All raw and processed data collected after the equipment change is located on the attached CD. It was not possible to collect data over a few of the gaps with the MTADS EM61 system. These gaps were marked by Blackhawk using the Trimble DGPS system and non-metallic pin flags and were later swept by Zapata personnel using a Schonstedt along with Blackhawk personnel using a Fisher hand held EM instrument.

A gap exists in the data coverage approximately equidistant from where the full glass vial and broken glass were located. The gap was due to an irregular driving pattern in that area in order to avoid the vials and was not identified during the field portion of the work. It was therefore not swept by Zapata personnel.

4.2 Targets

The EM61 data from the MTADS was used to identify the metal targets. A preliminary total of 136 individual metal targets were identified. These targets were prioritized, seven were added that were below the 17mV threshold, and one was removed resulting from a dual target pick. The total number of targets relocated on the site was 142.

4.3 Relocation

The targets that were relocated for investigation by Zapata are shown on Figure 3 as open circles. A total of 142 targets were relocated. These locations were marked on the ground with non-metallic pin flags using DGPS location techniques.

After Blackhawk had relocated 142 targets, 19 additional targets were removed from the target list associated with the surrounding fence and other cultural features. These 19 targets were removed after discussions with Zapata and Army Corps of Engineers personnel. Target 32 was thought to be a cultural feature and removed. It was later determined that target 32 was not a cultural feature and was returned to the list. This information was provided verbally from Blackhawk to Zapata personnel. Therefore, the total number of targets was 123 (142 relocated targets minus 19 targets associated with cultural features).

5.0 SUMMARY AND CONCLUSIONS

An electromagnetic geophysical survey was used to locate metal targets that may be K951/K952 CAIS (pigs) or their associated 9-inch metal cans at the Holloman Air Force Base in June 2004. Approximately five acres were geophysically mapped with the MTADS EM61 array. One hundred and forty-two targets were relocated and, based on discussions with Zapata and Army Corps of Engineers personnel, 123 were selected for investigation.

To determine the type of metal causing the geophysical anomalies, Zapata representatives will do intrusive investigations of selected individual targets that have been relocated on the ground by Blackhawk.

APPENDIX E
ANOMALY DIG SHEETS

ZAPATA ENIGNEERING
Geophysical Dig Sheet and Target History

Project Name: Holloman AFB
Geophysical Contractor: Zapata Engineering
Project Geophysicist: David Smith
Field Team: Pfeiffer, Meglich, Vierkorn
Survey Area ID: Grid DP 64
Sector: NA

Project Location: Alamogordo, NM
Design Center POC: Sherri Hudgins
COE Site Geophysicist: Walker / Selfridge
Date: June 2004
Coordinate System: UTM meters
Grid: NA

Unique Target ID	Original Data				Dig Results												Post-Dig Excavation QC Results		
	Easting	Northing	Max Amplitude	Priority	Anomaly Type *	# of contacts	Offset		Item Azimuth long axis	Inclination long axis - degrees	Depth (in/cm)		Description & Conclusion	Digital Photo File Name**	Date	Team Leader Initials	Excavation Hole Cleared?	QC Initials	Date
							Distance - inches	Direction (N, etc.)			to top	Center of Mass							
4	399736.51	3637092.91	361.0	42	OT	1	0		40	0	6		1 /4" x 4" wire; AL foil 10" x 10"	A02-004	6/14/2004	WH	Y	SDB	6/14/2004
5	399719.90	3637093.31	93.0	64	OT	1	0		25	225	2		12 " x 1" dia steel pipe	A01-005	6/14/2004	MM	Y	SDB	6/14/2004
6	399771.13	3637096.51	63.0	72	OT	1	0		190	20	6		20" x 1" steel pipe	A03-006	6/15/2004	MM	Y	SDB	6/15/2004
8	399708.30	3637096.51	17.5	119	OT	1	0		350	45	12		18" x 1 " flex steel conduit	A01-008	6/14/2004	MM	Y	SDB	6/14/2004
10	399739.32	3637103.32	107.2	59	OT	1	0		40	25	6		10" x 1 " rusty steel conduit	A02-010	6/15/2004	WH	Y	SDB	6/15/2004
13	399732.91	3637105.52	169.0	43	OT	1	0		355	0	2		6" x 1 " steel pipe	A01-013	6/14/2004	MM	Y	SDB	6/14/2004
14	399719.30	3637105.72	114.0	57	OT	1	0		0	V	6	?	1 /2 " rebar, V	A01-014	6/14/2004	MM	Y	SDB	6/14/2004
15	399742.92	3637107.12	17.5	119	OT	1	0		20	45	8		4" x 1 " rusty steel conduit	A02-015	6/15/2004	WH	Y	SDB	6/15/2004
16	399798.15	3637111.33	139.5	55	OT	1	0		45	45	18		12" x 2 " fence post	A04-016	6/15/2004	MM	Y	SDB	6/15/2004
17	399779.34	3637110.12	18.5	113	OT	1	0		0	V	12		12 x 1 /4 " carriage bolt	A03-017	6/15/2004	MM	Y	SDB	6/15/2004
18	399731.11	3637113.53	457.6	44	OT	1	18	NW	0	V	-36		wellhead, near V, 3' AGL	A01-018	6/14/2004	MM	Y	SDB	6/14/2004
19	399731.31	3637115.13	151.6	52	OT	1	18	W	0	V	-36		wellhead, near V, 3' AGL	A01-019	6/14/2004	MM	Y	SDB	6/14/2004
20	399731.11	3637118.93	100.0	62	OT	1	0		315	15	4		22" x 1" rusty steel conduit	B01-020	6/15/2004	WH	Y	SDB	6/15/2004
21	399729.71	3637115.33	42.8	76	OT	1	0		225	-10	8		6" x 1 /4 " copper wire	A01-021	6/14/2004	MM	Y	SDB	6/14/2004
22	399781.14	3637113.53	18.1	117	OT	1	0		45	15	11		crushed Al soda can	A03-022	6/15/2004	MM	Y	SDB	6/15/2004
23	399715.10	3637114.73	182.4	45	OT	1	0		40	30	12		36" x 1" rusty steel pipe	A01-023	6/14/2004	MM	Y	SDB	6/14/2004
24	399723.51	3637117.33	132.1	56	OT	1	0		45	45	4		8" x 1 " rusty steel pipe	A01-024	6/14/2004	MM	Y	SDB	6/14/2004
25	399711.90	3637122.34	21.3	110	OT	1	0		90	V	2		8" x 1 /2" gal steel carriage bolt	B01-025	6/15/2004	WH	Y	SDB	6/15/2004
26	399728.11	3637123.34	41.8	84	OT	1	0		315	20	4		3" x 2 " dia steel elbow	B01-026	6/15/2004	WH	Y	SDB	6/15/2004
27	399745.72	3637125.34	37.0	90	OT	1	0		225	45	4		6" x 1 " dia steel conduit, rusty	B02-027	6/15/2004	WH	Y	SDB	6/15/2004
28	399794.35	3637127.74	87.5	67	OT	1	0		90	25	9.5		12" x 2 " fence post	B03-028	6/15/2004	MM	Y	SDB	6/15/2004

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ZAPATA ENIGNEERING
Geophysical Dig Sheet and Target History

Project Name: Holloman AFB
Geophysical Contractor: Zapata Engineering
Project Geophysicist: David Smith
Field Team: Pfeiffer, Meglich, Vierkorn
Survey Area ID: Grid DP 64
Sector: NA

Project Location: Alamogordo, NM
Design Center POC: Sherri Hudgins
COE Site Geophysicist: Walker / Selfridge
Date: June 2004
Coordinate System: UTM meters
Grid: NA

Unique Target ID	Original Data				Dig Results												Post-Dig Excavation QC Results		
	Easting	Northing	Max Amplitude	Priority	Anomaly Type *	# of contacts	Offset		Item Azimuth long axis	Inclination long axis - degrees	Depth (in/cm)		Description & Conclusion	Digital Photo File Name**	Date	Team Leader Initials	Excavation Hole Cleared?	QC Initials	Date
							Distance - inches	Direction (N, etc.)			to top	Center of Mass							
29	399741.92	3637130.94	217.0	47	OT	1	0		90	15	1.5		4 ft x 1 /2 " rusty iron rod	B02-029	6/15/2004	WH	Y	SDB	6/15/2004
30	399746.52	3637133.55	54.1	75	OT	1	0		0	20	4		4 " x 3 " dia cast iron pipe, rusty	B02-030	6/15/2004	MM	Y	SDB	6/15/2004
31	399749.32	3637136.15	35.1	91	OT	1	0		90	60	6		10 x 1 /2 " rusty metal rod	B02-031	6/15/2004	WH	Y	SDB	6/15/2004
32	399737.30	3637139.00	9557.0	24	OT	20	0		V	0	24"		10lbs Sheet Metal Pieces 1" X 2' X 1'	B02-032	6/24/2004	WH	Y	SDB	6/24/2004
33	399792.55	3637143.18	195.0	50	OT	1	0		180	20	8		18 x 1 " rebar	B03-033	6/15/2004	MM	Y	SDB	6/15/2004
34	399773.94	3637144.56	96.6	63	OT	1	0		270	45	0		9 x 1 " stel pipe	B03-034	6/15/2004	MM	Y	SDB	6/15/2004
35	399764.13	3637147.36	101.0	61	OT	1	0		135	15	6		8 " x 1 " steel conduit, rusty	B03-035	6/15/2004	WH	Y	SDB	6/15/2004
36	399728.71	3637149.36	22.3	108	OT	1	0		25	45	18"		6 X 3" Auto Part Brake	C01-036	6/16/2004	MM	Y	SDB	6/16/2004
37	399745.32	3637152.76	829.5	38	OT	1	0		60	70	10"		96" X 1" Steel Pipe	C02-037	6/16/2004	WH	Y	SDB	6/16/2004
38	399749.92	3637152.56	69.1	70	OT	1	0		80	30	10"		12" X 0.75" Steel Pipe	C02-038	6/16/2004	WH	Y	SDB	6/16/2004
39	399756.33	3637154.57	211.5	39	OT	1	0		10	0	4"		Truck mud flap rod 0.75"Dx36"Lng	C02039	6/17/2004	WH	Y	SDB	6/17/2004
40	399723.91	3637152.96	18.8	112	OT	1	0		0	V	3"		1.5" Nail	C01-040	6/16/2004	MM	Y	SDB	6/16/2004
41	399779.14	3637156.77	112.1	60	OT	1	0		0	V	1"		6" Rusty Metal Disk with Screw Attached	C03-041	6/17/2004	WH	Y	SDB	6/17/2004
42	399746.72	3637156.17	36.0	89	OT	2	0		80	10	1"		2 - 3" Long Nails	C02-042	6/16/2004	WH	Y	SDB	6/16/2004
43	399767.93	3637156.97	301.7	48	OT	2	0		320	30	12"		(2) Steel Pipe 0.75Dx30"Lng	C03-043	6/17/2004	WH	Y	SDB	6/17/2004
44	399769.93	3637156.97	88.7	71	OT	1	0		315	-10	2"		Steel conduit 0.75"Dx12"Lng	C03-044	6/17/2004	WH	Y	SDB	6/17/2004
45	399754.12	3637157.57	29.0	97	OT	1	0		0	~V(80)	6"		Steel ROD 0.25"Dx10"Lng	C02-045	6/17/2004	WH	Y	SDB	6/17/2004
46	399761.33	3637158.97	70.4	69	OT	1	0		90	0	24"		12" X 1.5" Steel Pipe	C02-046	6/17/2004	WH	Y	SDB	6/17/2004
47	399743.32	3637159.77	292.4	46	OT	2	0		5	15	6"		0.75" Dia Steel Conduit, 14" X 36" Cu Wire	C02-047	6/16/2004	WH	Y	SDB	6/16/2004
48	399750.32	3637162.77	145.1	54	OT	1	0		80	270	8"		48" X 0.75" Steel Pipe	C02-048	6/16/2004	WH	Y	SDB	6/16/2004
49	399767.53	3637164.18	145.1	53	OT	1	0		0	45	6"		Steel Pipe 0.75Dx30"Lng	C03-049	6/17/2004	WH	Y	SDB	6/17/2004
50	399748.32	3637163.98	26.8	102	OT	1	0		80	0	2"		8" X 0.5" Steel Pipe	C02-050	6/16/2004	WH	Y	SDB	6/16/2004

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ZAPATA ENIGNEERING
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Geophysical Contractor: Zapata Engineering
Project Geophysicist: David Smith
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Survey Area ID: Grid DP 64
Sector: NA

Project Location: Alamogordo, NM
Design Center POC: Sherri Hudgins
COE Site Geophysicist: Walker / Selfridge
Date: June 2004
Coordinate System: UTM meters
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Unique Target ID	Original Data				Dig Results												Post-Dig Excavation QC Results		
	Easting	Northing	Max Amplitude	Priority	Anomaly Type *	# of contacts	Offset		Item Azimuth long axis	Inclination long axis - degrees	Depth (in/cm)		Description & Conclusion	Digital Photo File Name**	Date	Team Leader Initials	Excavation Hole Cleared?	QC Initials	Date
							Distance - inches	Direction (N, etc.)			to top	Center of Mass							
51	399727.91	3637164.98	24.1	104	OT	1	0		10	270	14"		4" Aluminum Threshold	C01-051	6/16/2004	MM	Y	SDB	6/16/2004
52	399736.91	3637166.38	42.7	83	OT	1	0		80	10	6"		0.5" X 6" Steel Conduit	C02-052	6/16/2004	WH	Y	SDB	6/16/2004
53	399771.73	3637166.58	61.3	73	OT	1	0		0	0	3"		Rusty Steel Pipe 0.75Dx18"Lng	C03-053/054	6/17/2004	WH	Y	SDB	6/17/2004
54	399773.14	3637167.38	58.6	74	OT	1	0		0	0	3"		Rusty Steel Pipe 0.75Dx18"Lng	C03-053/054	6/17/2004	WH	Y	SDB	6/17/2004
55	399744.32	3637167.38	32.3	95	OT	1	0		20	90	0		8" X 0.5" Copper Pipe	C02-055	6/16/2004	WH	Y	SDB	6/16/2004
56	399728.31	3637168.38	32.8	93	OT	1	0		0	230	8"		1" X 8" Pipe Valve	C01-056	6/16/2004	MM	Y	SDB	6/16/2004
57	399811.96	3637168.78	37.3	88	OT	S	0		60	-30	28"		Flattened beer can	C04-057	6/17/2004	MM	Y	SDB	6/17/2004
58	399738.72	3637169.98	175.8	51	OT	1	0		10	90	1"		18" X 0.5" Steel Conduit	C02-058	6/16/2004	WH	Y	SDB	6/16/2004
59	399770.53	3637170.78	92.8	65	OT	1	0		10	45	24"		Steel Pipe 0.75Dx15"Lng	C03-059	6/17/2004	WH	Y	SDB	6/17/2004
60	399733.11	3637171.18	18.5	114	OT	1	0		45	210	12"		2" X 3" Pipe	C01-060	6/16/2004	MM	Y	SDB	6/16/2004
61	399749.12	3637172.18	23.0	107	OT	1	0		90	V	6"		Trigger off Toy Gun	C02-061	6/16/2004	WH	Y	SDB	6/16/2004
62	399745.12	3637175.19	110.6	58	OT	1	0		80	V	2"		2" Long Nail	C02-062	6/16/2004	WH	Y	SDB	6/16/2004
63	399750.72	3637179.59	105.9	29	OT	1	0		0	0	6"		Steel conduit 1.25"Dx7"Lng	C02-063	6/17/2004	WH	Y	SDB	6/17/2004
64	399744.92	3637174.19	87.4	66	OT	1	0		70	5	6"		10" X 1" Steel Pipe	C02-064	6/16/2004	WH	Y	SDB	6/16/2004
65	399746.52	3637175.39	39.4	86	OT	1	0		20	80	2"		3" Nail	C02-065	6/16/2004	WH	Y	SDB	6/16/2004
66	399747.72	3637177.39	32.2	94	OT	1	0		0	0	4"		Steel conduit 0.75"Dx10"Lng	C02-066	6/17/2004	WH	Y	SDB	6/17/2004
67	399746.12	3637176.39	24.6	103	OT	1	0		90	20	4"		12" X 0.75" Steel Pipe	C02-67	6/16/2004	WH	Y	SDB	6/16/2004
68	399805.15	3637175.39	5872.6	12	OT	1	0		0	40	4"		80-lb intake manifold 4"x12"x18"	C04-068	6/17/2004	MM	Y	SDB	6/17/2004
69	399761.13	3637175.39	49.4	31	OT	1	0		45	0	3"		Steel conduit 0.75"Dx7"Lng	C02-069	6/17/2004	WH	Y	SDB	6/17/2004
70	399796.75	3637174.79	18.1	116	OT	1	0		V	0	18"		SODA CAN	C03-70	6/17/2004	MM	Y	SDB	6/17/2004
71	399754.93	3637178.19	254.5	30	OT	2	0		10	0	4"/ 2"		Nail 2"Lng / Steel Conduit 1"Dx24"Lng	C02-071	6/17/2004	WH	Y	SDB	6/17/2004
72	399745.32	3637180.99	211.1	28	OT	1	0		260	30	6"		Steel Pipe 1"Dx5'Lng	D02-072	6/18/2004	MM	Y	SDB	6/18/2004

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ZAPATA ENIGNEERING
Geophysical Dig Sheet and Target History

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Survey Area ID: Grid DP 64
Sector: NA

Project Location: Alamogordo, NM
Design Center POC: Sherri Hudgins
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Date: June 2004
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Unique Target ID	Original Data				Dig Results												Post-Dig Excavation QC Results		
	Easting	Northing	Max Amplitude	Priority	Anomaly Type *	# of contacts	Offset		Item Azimuth long axis	Inclination long axis - degrees	Depth (in/cm)		Description & Conclusion	Digital Photo File Name**	Date	Team Leader Initials	Excavation Hole Cleared?	QC Initials	Date
							Distance - inches	Direction (N, etc.)			to top	Center of Mass							
73	399741.72	3637178.39	47.2	77	OT	1	0		0	0	1"		Steel conduit 0.75"Dx12"Lng	C02-073	6/17/2004	WH	Y	SDB	6/17/2004
74	399744.52	3637179.79	46.9	80	OT	1	0		0	0	4"		Metal wire 4" Lng	C02-074	6/17/2004	WH	Y	SDB	6/17/2004
75	399741.72	3637177.39	45.4	81	OT	1	0		0	0	1"		Steel conduit 0.75"Dx12"Lng	C02-075	6/17/2004	WH	Y	SDB	6/17/2004
76	399753.92	3637183.59	19.2	115	OT	1	0		45	0	2"		Steel 0.5"x1"x0.5"	D01-077	6/18/2004	MM	Y	SDB	6/18/2004
77	399728.31	3637185.00	287.8	34	OT	1	0		250	60	4"		Steel Flat Stock 20"x1"	D01-077	6/18/2004	MM	Y	SDB	6/18/2004
78	399740.32	3637188.00	92.4	27	OT	3	0		225	60	18"		(3) Pipe 1"x24"/1"x18"/1"x12"	D02-078	6/18/2004	MM	Y	SDB	6/18/2004
79	399725.51	3637188.60	280.2	33	OT	1	0		225	0	3"		Pipe 1.5"x18"	D02-078	6/18/2004	MM	Y	SDB	6/18/2004
80	399810.56	3637189.80	55.9	25	OT	1	0		V	0			WIRE ASSORTED LENGTH (1.5-12)"	D04-080	6/17/2004	MM	Y	SDB	6/17/2004
81	399809.36	3637191.00	20.9	26	OT	1	0		V	0			WIRE ASSORTED LENGTH (1.5-14)"	D04-081	6/17/2004	MM	Y	SDB	6/17/2004
82	399721.71	3637191.00	427.8	32	OT	1	0		180	0	4"		Pipe 18"x1"	D01-078	6/18/2004	MM	Y	SDB	6/18/2004
83	399746.12	3637192.80	27.0	100	OT	2	0		135	0	9"		Steel Plate 0.25"x2"x2" Steel Pipe 8"x1"	D02-083	6/18/2004	MM	Y	SDB	6/18/2004
84	399734.71	3637193.80	28.4	98	OT	1	0		225	0	6"		Steel 0.25"x2"x3"	D01-084	6/18/2004	MM	Y	SDB	6/18/2004
85	399750.52	3637195.21	32.0	96	OT	1	0		270	45	8"		Steel Pipe 1.5"x8"	D02-085	6/18/2004	MM	Y	SDB	6/18/2004
86	399814.16	3637196.21	47.5	78	OT	1	0		210	20	4"		16" WIRE	D04-086	6/17/2004	MM	Y	SDB	6/17/2004
87	399731.11	3637198.61	47.2	79	OT	1	0		90	75	8"		Steel Rebar 0.5"x6"	D01-087	6/18/2004	MM	Y	SDB	6/18/2004
88	399729.31	3637198.41	43.1	82	OT	2	0		45	0	10"		Steel Plate 1.25"x1.5"x3"	D01-088	6/18/2004	MM	Y	SDB	6/18/2004
89	399727.91	3637197.21	27.1	99	OT	1	0		90	45	8"		Pipe Elbow 1.5"	D01-089	6/18/2004	MM	Y	SDB	6/18/2004
90	399748.32	3637198.01	33.6	92	OT	1	0		230	10	10"		1.5" X 12" Steel Pipe	D02-090	6/18/2004	MM	Y	SDB	6/18/2004
91	399734.91	3637199.81	136.8	20	OT	1	0		90	30	3"		Steel Rebar 0.5"x16"	D01-091	6/18/2004	MM	Y	SDB	6/18/2004
92	399736.11	3637203.21	89.4	18	OT	1	0		190	40	6"		Steel Pipe 1.5"x10"	D01-092	6/18/2004	MM	Y	SDB	6/18/2004
93	399813.96	3637203.21	510.7	41	OT	1	0		V	45	6"		Pan 18"x2.5"	D04-093	6/17/2004	MM	Y	SDB	6/17/2004
94	399731.31	3637204.21	125.7	19	OT	1	0		0	0	18"		Steel Pipe 2.5"x1"	D01-094	6/18/2004	MM	Y	SDB	6/18/2004

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ZAPATA ENIGNEERING
Geophysical Dig Sheet and Target History

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							Distance - inches	Direction (N, etc.)			to top	Center of Mass							
95	399734.51	3637206.62	71.8	17	OT	2	0		0	30	6"		Steel Pipe 4"x3" Lineman Plyers	D01-095	6/18/2004	MM	Y	SDB	6/18/2004
96	399738.72	3637210.22	126.6	15	OT	1	0		V		4"		Drain Cap 4" Diam 0.5"	D02-096	6/18/2004	MM	Y	SDB	6/18/2004
97	399740.32	3637207.62	30.2	16	OT	1	0		275	0	24"		4" X 1" Steel Pipe	D02-097	6/18/2004	MM	y	SDB	6/18/2004
98	399724.31	3637209.42	23.7	106	OT	1	0		50	30	3"		6" Wire	D01-98	6/19/2004	MM	Y	SDB	6/18/2004
99	399775.94	3637214.42	72.0	4	CWM	12	0		0	V	6"		12 1' X 3" Metal part of CAIS Can	E03-099	7/7/2004	VV	Y	SDB	7/7/2004
100	399737.31	3637215.82	276.9	14	OT	2	0		225	0	3"		Steel Rebar 0.75"x14"	E01-100	6/18/2004	MM	Y	SDB	6/18/2004
102	399739.32	3637218.63	80.7	13	OT	1	0		90	10	18"		Barbed Wire	E02-101	6/22/2004	MM	Y	SDB	6/22/2004
103	399781.74	3637222.43	273.3	2	UXO	7	0		60	0	6"		2-Full/5- Partial 4lb Incendiary Bomblets	E03-102	6/23/2004	MM	Y	SDB	6/23/2004
104	399760.33	3637226.03	341.2	10	OT	4	0		V	0	18"		Burnpit debris, slag pieces	E02-104	6/22/2004	MM	Y	SDB	6/22/2004
105	399762.53	3637226.03	27.9	9	OT	3	0		V	0	2"		0.5" X 3" X 2" Burnpit Debris	E02-105	6/22/2004	MM	Y	SDB	6/22/2004
106	399717.90	3637228.04	27.0	101	OT	1	0		V		1"		Aluminum Pie Plate	E01-106	6/18/2004	MM	Y	SDB	6/18/2004
107	399808.36	3637230.44	219.1	49	OT	1	0		V	0	8"		3' Barrel Ring	E04-107	6/23/2004	WH	Y	SDB	6/23/2004
108	399743.12	3637230.24	27.3	23	ORS	1	0		210	0	1"		2.5" X 2.5" X 2" Octagon M69 Incendiary Base	E02-108	6/22/2004	MM	Y	SDB	6/22/2004
109	399795.95	3637232.64	403.4	35	ORS	15	0		45	0	14"		Bomblet bases, 1" X 4" Slag pieces	E03-109	6/23/2004	WH	Y	SDB	6/23/2004
110	399799.55	3637237.04	259.9	7	OT	1	0		180	10	8"		2' X 1.5' Part of Rusted Barrel	E04-110	6/23/2004	WH	Y	SDB	6/23/2004
111	399797.95	3637235.44	50.2	22	OT	20	0		V	0	10"		Rusted Metal Barrel Parts	E04-111	6/23/2004	WH	Y	SDB	6/23/2004
112	399765.53	3637234.64	322.2	21	ORS	3	0		V	0	4"		M69 Bases	E02-112	6/22/2004	MM	Y	SDB	6/22/2004
113	399771.53	3637238.05	101.9	8	OT	1	0		90	0	2"		3" X 5" Steel Plate	E03-113	6/22/2004	WH	Y	SDB	6/22/2004
114	399771.53	3637240.45	31.8	11	OT	1	0		90	0	4"		Bomblet base (No Filler)	E03-114	6/22/2004	WH	Y	SDB	6/22/2004
116	399729.71	3637241.65	22.2	109	OT	1	0		65	45	10"		0.5" X 1" X 12" Steel strap with nails	F01-116	6/22/2004	MM	Y	SDB	6/22/2004
117	399790.95	3637245.45	37.7	87	OT	1	0		V	0	4"		Slag	F03-117	6/22/2004	WH	Y	SDB	6/22/2004
118	399772.34	3637245.85	135.9	24	OT	3	0		V	0	2"		1" X 3" Multiple Slag Scrap	F03-118	6/22/2004	WH	Y	SDB	6/22/2004

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ZAPATA ENIGNEERING
Geophysical Dig Sheet and Target History

Project Name: Holloman AFB
Geophysical Contractor: Zapata Engineering
Project Geophysicist: David Smith
Field Team: Pfeiffer, Meglich, Vierkorn
Survey Area ID: Grid DP 64
Sector: NA

Project Location: Alamogordo, NM
Design Center POC: Sherri Hudgins
COE Site Geophysicist: Walker / Selfridge
Date: June 2004
Coordinate System: UTM meters
Grid: NA

Unique Target ID	Original Data				Dig Results												Post-Dig Excavation QC Results		
	Easting	Northing	Max Amplitude	Priority	Anomaly Type*	# of contacts	Offset		Item Azimuth long axis	Inclination long axis - degrees	Depth (in/cm)		Description & Conclusion	Digital Photo File Name**	Date	Team Leader Initials	Excavation Hole Cleared?	QC Initials	Date
							Distance - inches	Direction (N, etc.)			to top	Center of Mass							
120	399729.31	3637247.86	24.4	105	ORS	7	0		290	10	8"		M3 Improvised Napalm Operable Initiatior	F01-120	6/22/2004	WH	Y	SDB	6/22/2004
121	399794.15	3637247.65	19.9	111	OT	6	0		V	0	2"		2.5" X 1.5" Buckles/Buttons	F03-121	6/22/2004	WH	Y	SDB	6/22/2004
122	399764.93	3637248.86	40.2	85	OT	1	0		280	5	2"		1" X 2" X 3" Metal	F02-122	6/22/2004	MM	Y	SDB	6/22/2004
123	399757.93	3637252.46	230.9	40	OT	1	0		V	0	3"		1" X 8" Fence post	F02-123	6/22/2004	MM	Y	SDB	6/22/2004
124	399775.54	3637252.46	94.2	36	OT	2	0		V	0	2"		2 16" wire strands	F03-124	6/22/2004	WH	Y	SDB	6/22/2004
125	399743.92	3637254.46	72.4	68	OT	1	0		V	0	1"		1" X 2" X 2" Steel	F02-125	6/22/2004	MM	Y	SDB	6/22/2004
126	399741.32	3637253.06	53.5	37	OT	1	0		V	0	8"		0.5" X 1" X 2" Metal fences	F02-126	6/22/2004	MM	Y	SDB	6/22/2004
136	399789.69	3637230.69	6.0	121	OT	1	0		25	0	2"		5" X 2" X 0.5" Metal Slag	E03-136	6/23/2004	WH	Y	SDB	6/23/2004
137	399784.09	3637226.89	4854.7	5	ORS	150	0		V	0	24"		Burn Pit, 4lb Incendiary Bomblet	E03-137	6/23/2004	MM	Y	SDB	6/23/2004
138	399786.69	3637227.69	53.3	1	OT	3	0		75	0	24"		1" X 1.5" Nails	E03-138	6/23/2004	WH	Y	SDB	6/23/2004
139	399799.09	3637215.09	4.1	3	NC	0	0		0	0	>36"		No contact, Dug to 36"	E04-139	6/23/2004	WH	Y	SDB	6/23/2004
140	399756.49	3637206.69	14.6	6	OT	1	0		V	0	2"		Hose Clamp 1"x0.5"x0.5"	D02-140	6/18/2004	MM	Y	SDB	6/18/2004
141	399755.49	3637208.09	10.1	120	OT	1	0		270	0	2"		0.25" X 6" Valve Stem	D02-141	6/18/2004	MM	Y	SDB	6/18/2004
142	399766.09	3637239.09	4.4	122	ORS	1	0		270	5	4"		2.5" X 2.5" X 2" Octagon M69 Incendiary Base	E02-142	6/22/2004	MM	Y	SDB	6/22/2004

Note: * For ***Anomaly type***, use UXO for UXO, F for frag, ORS for ordnance related scrap, OT for other, OE for ordnance non-UXO, SA for small arms ammunition, NC for no contact, FP for false positive, CWM for Chemical Warfare Material.
** Optional Fields - refer to SOW for applicability to Specific Project.

Page 6 of 6

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A02	Flag # 4	Date 6/15/04

(Team 1) / Team 2

Photo: A02-004

Item Description: Wire/Aluminum 4" 10 X 10

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 363 7093

X: 399 736.5

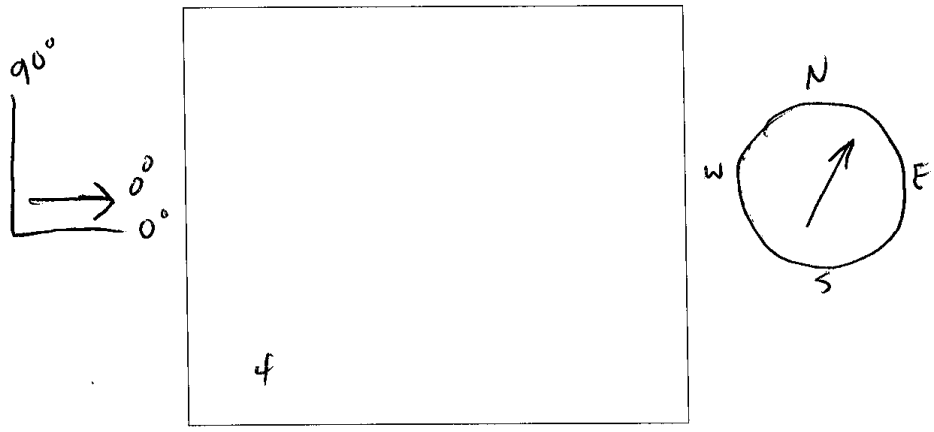
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		2

Passed Inspection: Yes ABB/RCB

Remarks:
Wire ¼ x 4"
Aluminum Foil 10"x10"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A91	Flag # 5	Date 6/14/04

Team 1 / Team 2

Photo: A04005

Item Description: Steel pipe

Condition: N/A

Depth: 2"

GPS Coordinates:

Y: 3637093

X: 399719.9

Quality Control Results

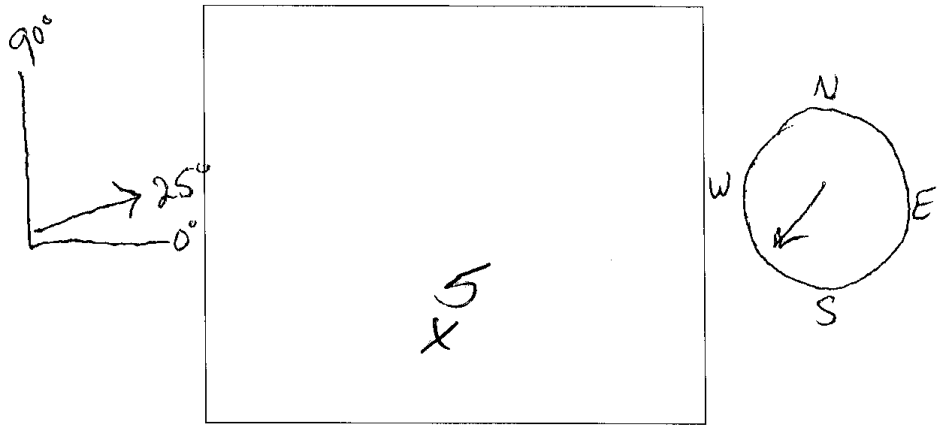
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AOB / RCB

Remarks:

Steel pipe 12"x1"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature AOB

ZAPATAENGINEERING **DIG Sheet Record**

A03 A03

Work Area DP 64	Grid # A02	Flag # 6	Date 6/15/04

Team 1 / Team 2

Photo: A03-006

Item Description: Steel Pipe 20" x 1"

Condition: N/A

Depth: 6"

GPS Coordinates:

Y: 3637097

X: 399771.1

Quality Control Results

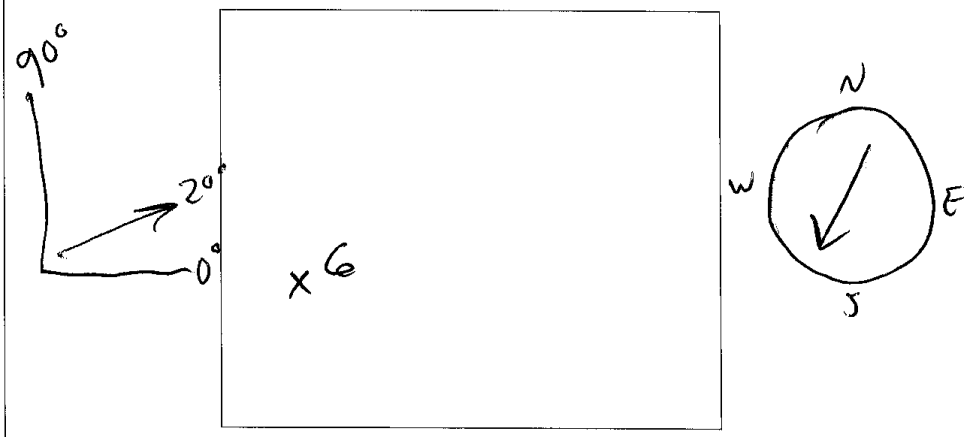
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / A03 / RCB

Remarks:

Steel Pipe 20"x1"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A01	Flag # 8	Date 6/14/04

Team 1 / Team 2

Photo: A01-008

Item Description: wire Conduit

Condition: N/A

Depth: 12"

GPS Coordinates:

Y: 363797

X: 399708.3

Quality Control Results

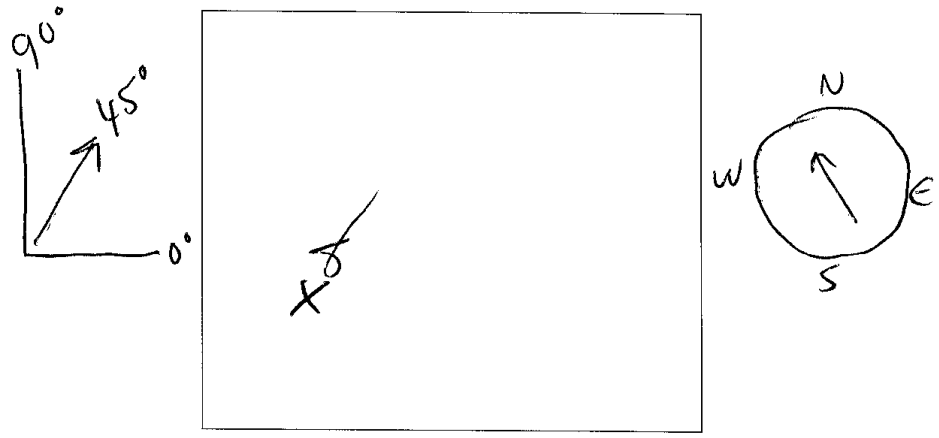
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / SDB / RCB

Remarks:

Wire Conduit Flex Type 18"x1"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A02	Flag # 10	Date 6/15/05

Team 1 / Team 2

Photo: A02-010

Item Description: Steel conduit 10"

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 3637103

X: 399739.3

Quality Control Results

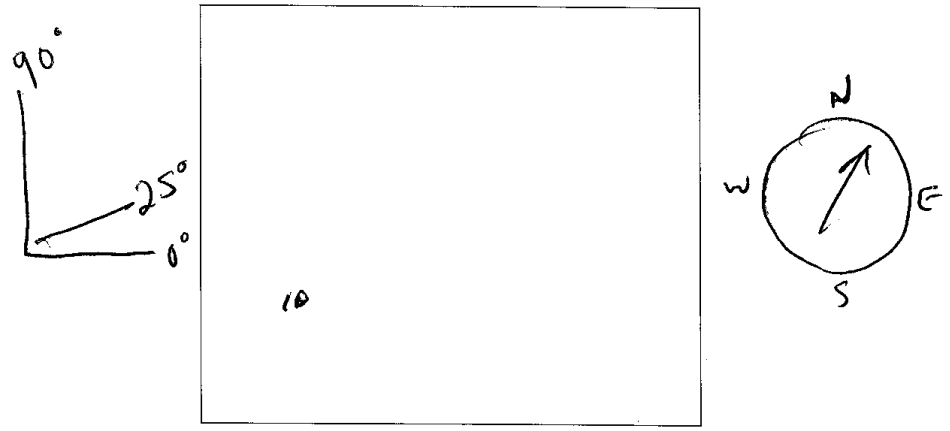
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / RKB

Remarks:

10"x1" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A-1	Flag # 13	Date 6/14/04

Team 1 / Team 2

Photo: A01-003

Item Description: Steel Pipe

Condition: N/A

Depth: 2"

GPS Coordinates:

Y: 3637106

X: 399732.9

Quality Control Results

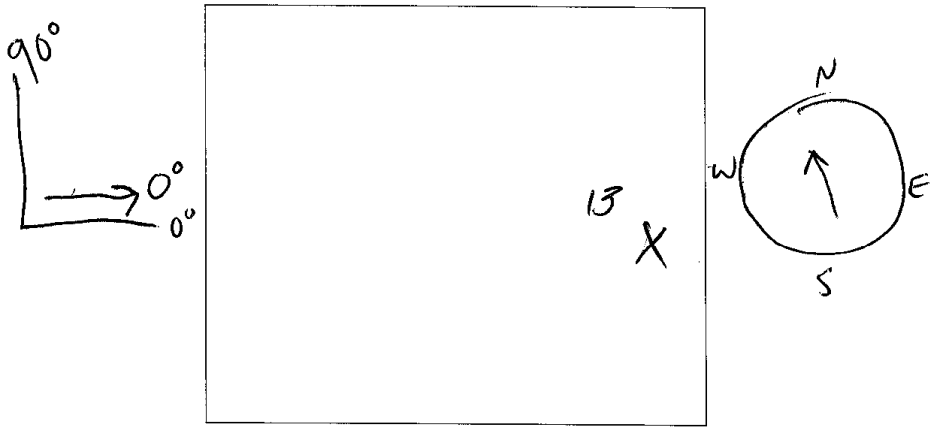
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes AOS/RCB

Remarks:

Steel Pipe 6"x1"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A01	Flag # 14	Date 6/14/04

Team 1 / Team 2

Photo: A01-014

Item Description: Re Bar / Vertical

Condition: N/A

Depth: 6"

GPS Coordinates:

Y: 3637106

X: 399719.3

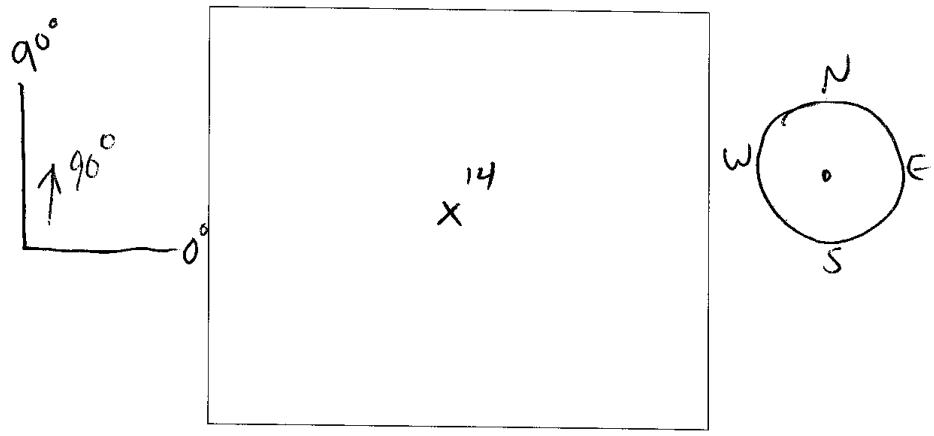
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AAB / RCB

Remarks:
Rebar in vertical position
½" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A02	Flag # 15	Date 6/15/04

Team 1 / Team 2

Photo: A02-015

Item Description: piece Steel conduit 4"

Condition: Rusty

Depth: 8"

GPS Coordinates:

Y: 3637107

X: 399742.9

Quality Control Results

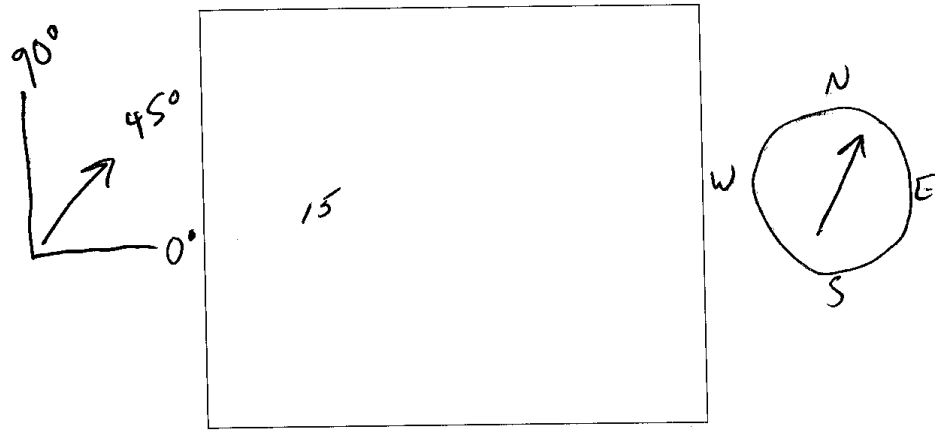
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / RLB

Remarks:

4"x1" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A04	Flag # 16	Date 6/15/04

Team 1 / Team 2

Photo: A04-016

Item Description: Fence Post 12"

Condition: N/A

Depth: 18"

GPS Coordinates:

Y: 3637111

X: 399798.2

Quality Control Results

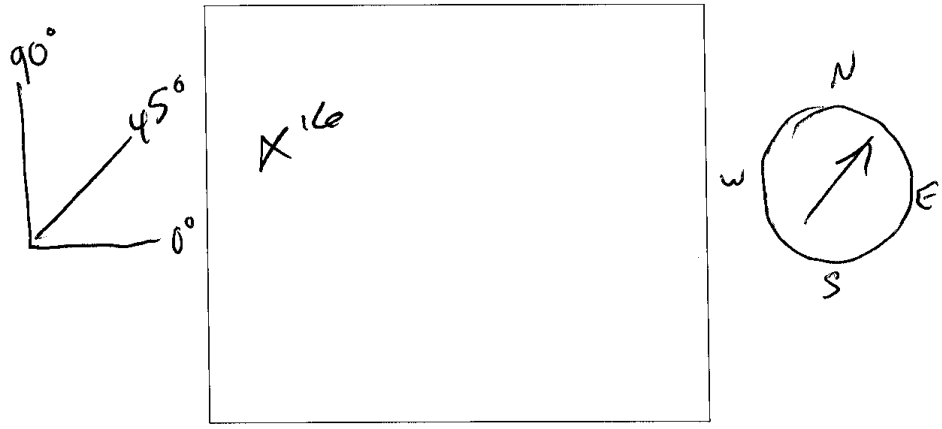
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / RCB

Remarks:

Fence Post 12"X2"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING DIG Sheet Record

Work Area DP 64	Grid # ~~A02~~ A03	Flag # 17	Date 6/~~[illegible]~~15/04

Team 1 / Team 2

Photo: A03-017

Item Description: Carriage Bolt

Condition: N/A

Depth: 12"

GPS Coordinates:

Y: 3637110

X: 399779.3

Quality Control Results

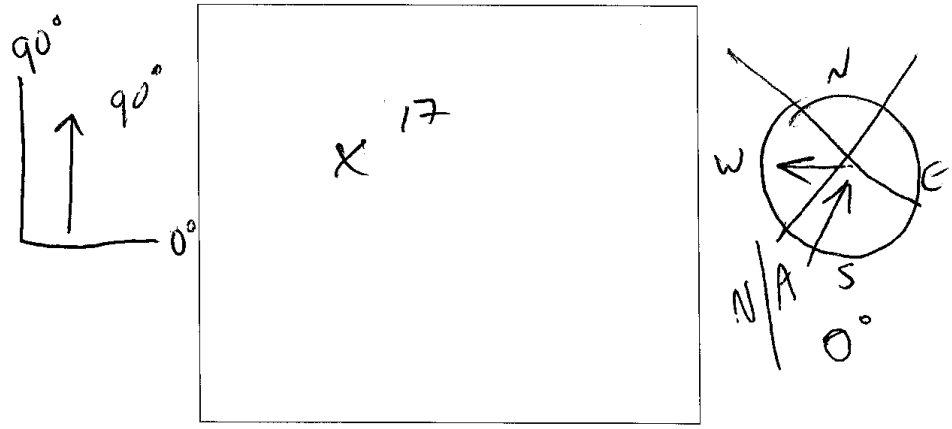
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/~~No~~/~~N/A~~

Remarks:

12" x 1/4"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A01	Flag # 18	Date 6/14/04

Team 1 / Team 2

Photo: A01-018

Item Description: Well Head

Condition: N/A

Depth: Surface

GPS Coordinates:

Y: 3637114

X: 399731.1

Quality Control Results

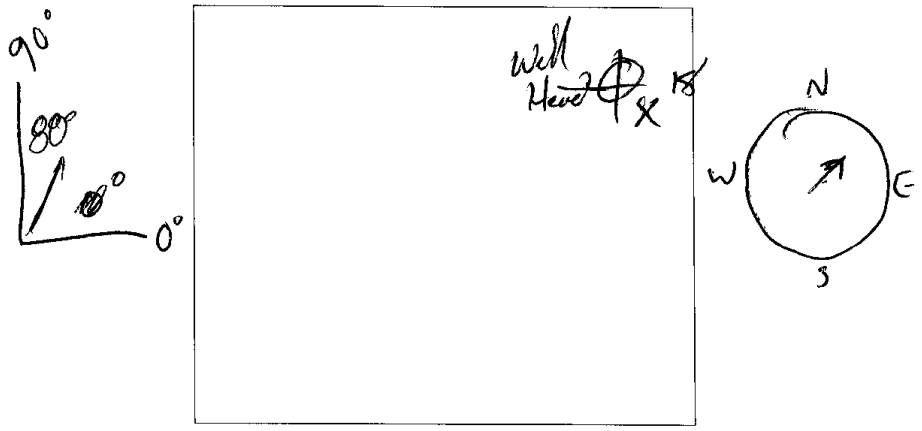
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / HDB / RKB

Remarks:

Well Head

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A01	Flag # 19	Date 6/14/04

Team 1 / Team 2 (circled: Team 2)

Photo: A01019

Item Description: Well Head

Condition: N/A

Depth: Surface

GPS Coordinates:

Y: 3637115

X: 399731.3

Quality Control Results

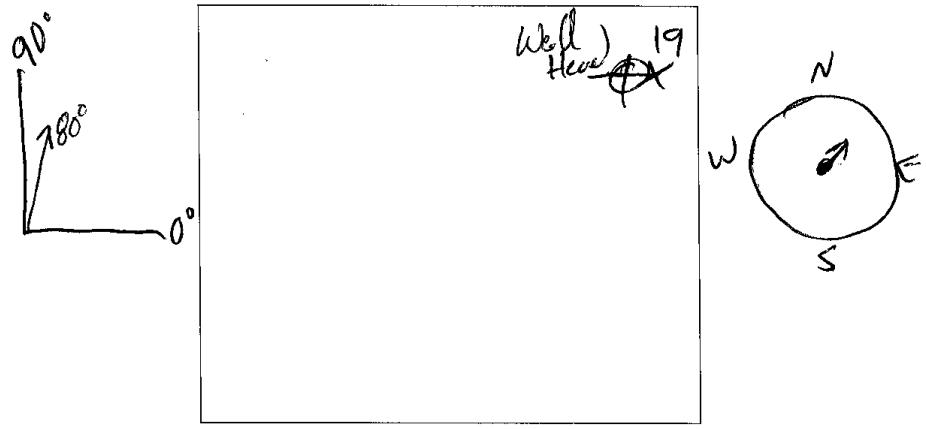
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AMS / RCB

Remarks:

Well Head

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B01	Flag # 20	Date 6/15/04

Team 1 / Team 2

Photo: B01-020

Item Description: 22" Piece Steel Conduit

Condition: Rusty

Depth: 4"

GPS Coordinates:

Y: 3637119

X: 399731.1

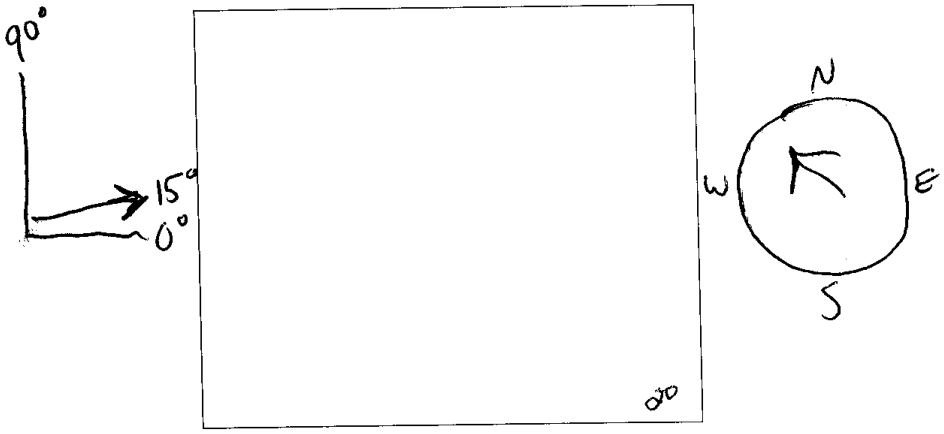
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AOD / RLB

Remarks:
22" X 1" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A01	Flag # 21	Date 6/14/021

Team 1 / Team 2

Photo: A06021

Item Description: Copper wire

Condition: N/A

Depth: 8"

GPS Coordinates:

Y: 3637115

X: 399729.7

Quality Control Results

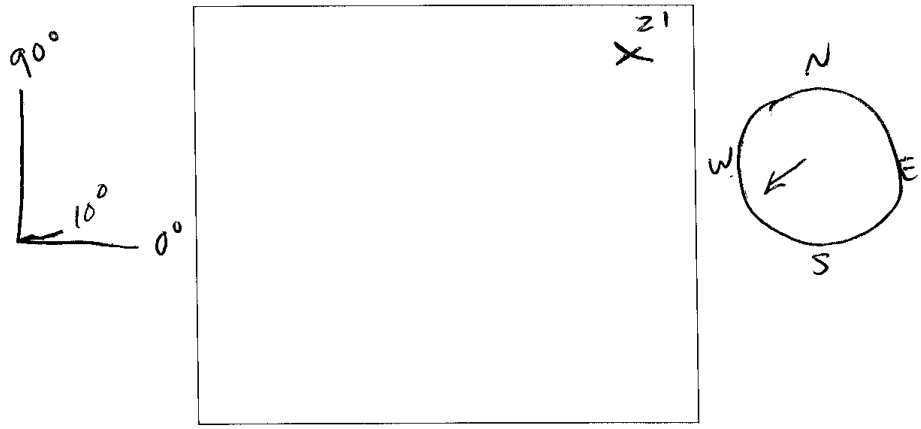
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ADS / RCB

Remarks:

6" copper wire X ¼ diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A03	Flag # 22	Date 6/15/04

Team 1 / Team 2

Photo: A03-022

Item Description: Soda Can

Condition: Crushed

Depth: 11"

GPS Coordinates:

Y: 3637114

X: 399781.1

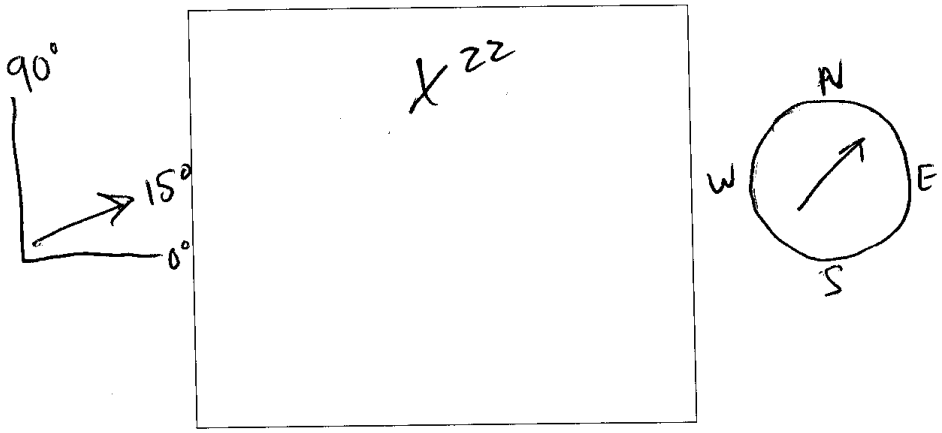
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / Yes / RLB

Remarks:
Crushed
Soda Can Aluminum

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A01	Flag # 23	Date 6/14/04

Team 1 / Team 2

Photo: A01-023

Item Description: Steel Pipe 36"

Condition: N/A

Depth: 12"

GPS Coordinates:

Y: 3637115

X: 399715.1

Quality Control Results

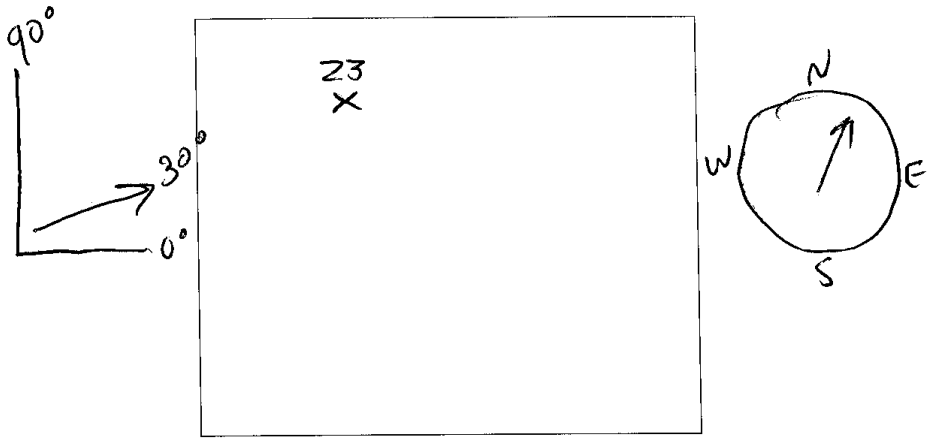
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AMB / RKB

Remarks:

Steel Pipe
Rust 36" x 1"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # A41	Flag # 24	Date 6/14/04

Team 1 / Team 2 (circled: Team 2)

Photo: A01-024

Item Description: Steel Pipe

Condition: N/A

Depth: 4"

GPS Coordinates:

Y: 3637117

X: 399723.5

Quality Control Results

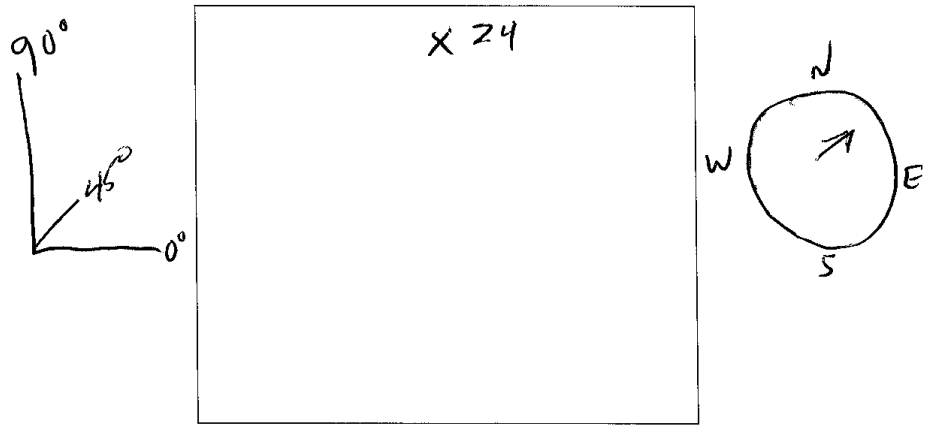
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ADB / RLB

Remarks:

Steel Pipe 6"x1"
RUST

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B01	Flag # 25	Date 6/15/04

Team 1 / Team 2

Photo: B01-025

Item Description: 8" Carriage bolt

Condition: Galv. Steel

Depth: 2"

GPS Coordinates:

Y: 3637122

X: ~~399710.35~~ 399711.9

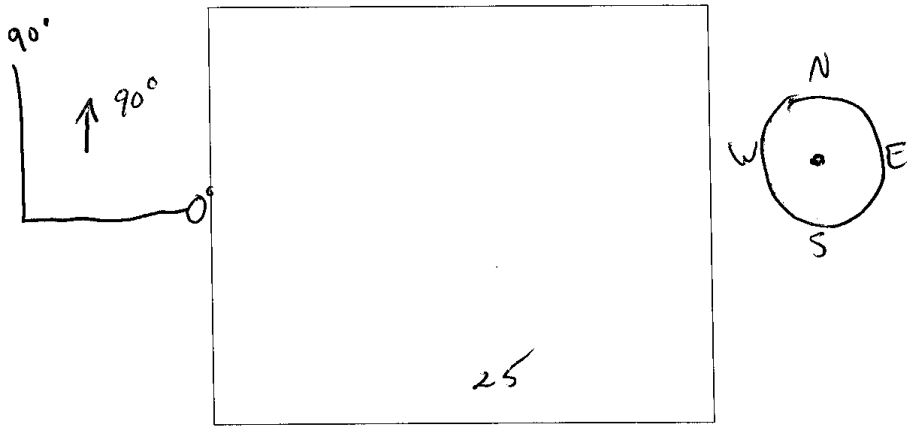
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AB3 / RCB

Remarks:
8" x ½" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B01	Flag # 26	Date 6/15/04

Team 1 / Team 2

Photo: B01-026

Item Description: 3" Drain elbow Steel

Condition: Rusty

Depth: 4"

GPS Coordinates:

Y: 3637123

X: 399728.1

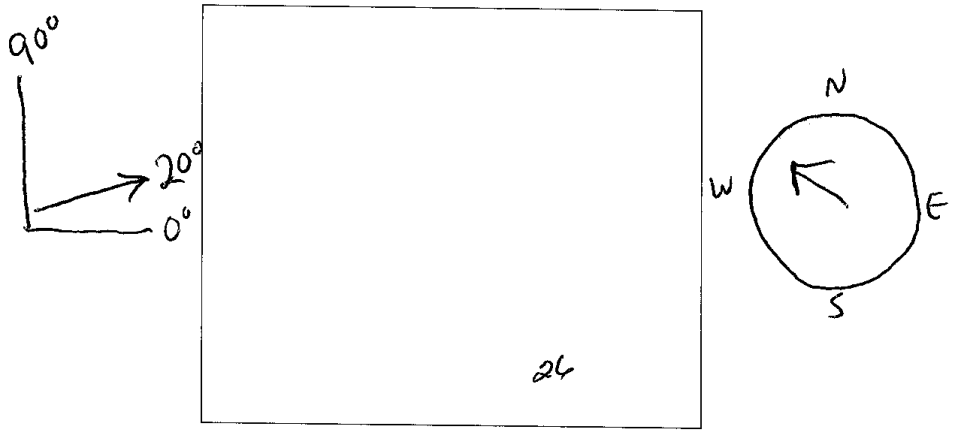
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / RKB

Remarks:
3"x2" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B02	Flag # 27	Date 6/15/04

Team 1 / Team 2

Photo: B02 - 027

Item Description: 4" piece Steel Conduit

Condition: Rusty

Depth: 4"

GPS Coordinates:

Y: 3637125

X: 399745.7

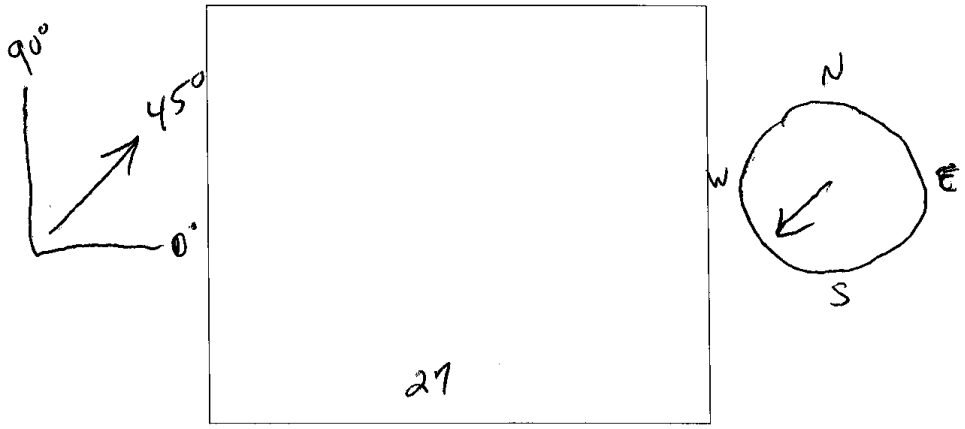
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AOB / RB

Remarks:
6"x1" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B03	Flag # 28	Date 6/15/04

Team 1 / Team 2

Photo: B03-028

Item Description: Fence Post

Condition: N/A

Depth: 9 1/2"

GPS Coordinates:

Y: 363728

X: 399794.4

Quality Control Results

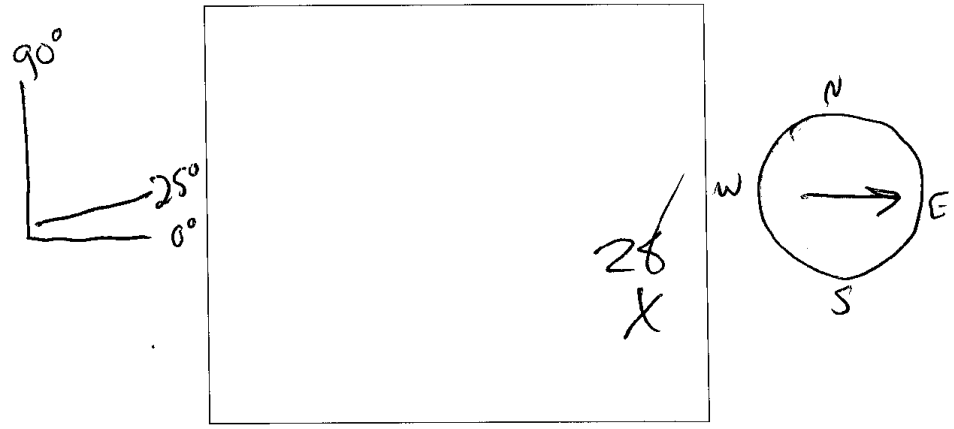
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / Yes / RCB

Remarks:

Fence Post 12" x 2"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid #B02	Flag #29	Date 6/15/04

Team 1 / Team 2

Photo: B02-029

Item Description: 4' piece iron rod

Condition: Rusty

Depth: 1 1/2"

GPS Coordinates:

Y: 3637131

X: 399741.9

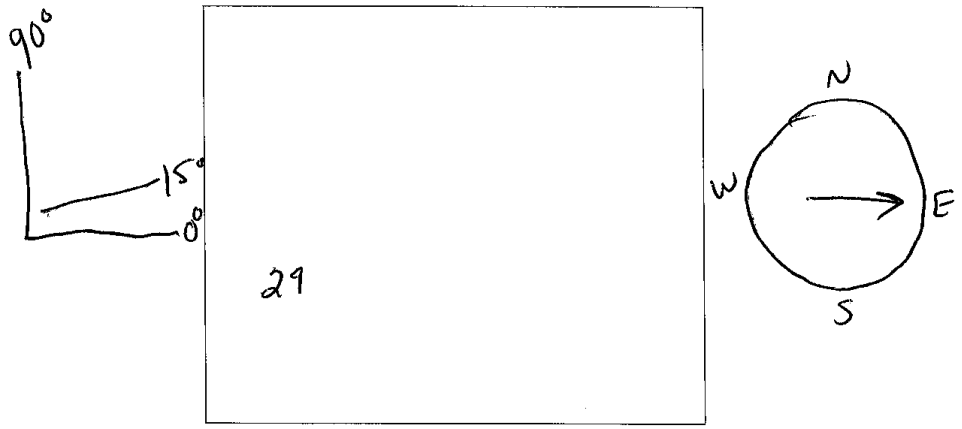
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / JPB / RLB

Remarks:
48" x 1/2" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B02	Flag # 30	Date 6/15/04

Team 1 / Team 2

Photo: B02-030

Item Description: 4" piece cast iron sewer pipe

Condition: Rusty

Depth: 4"

GPS Coordinates:

Y: 3637134

X: 399746.5

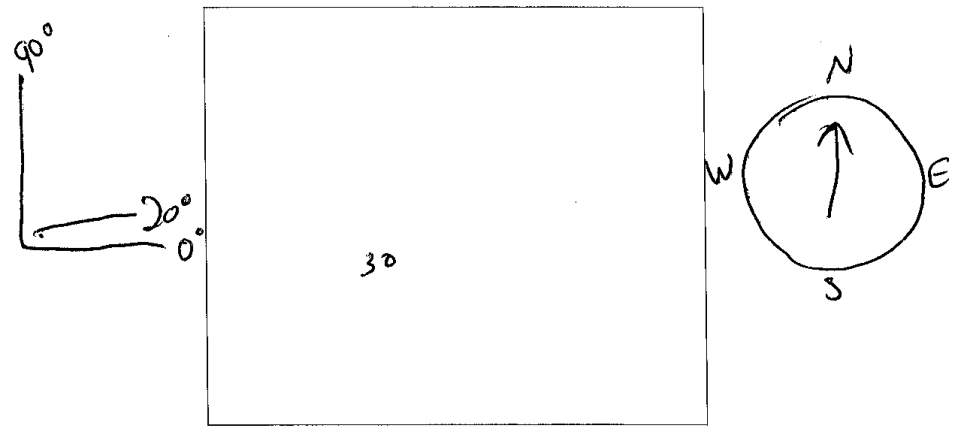
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / Yes / RB

Remarks:
3" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B02	Flag # 31	Date 6/15/04

Team 1 / Team 2

Photo: B02-031

Item Description: 10" metal Rod

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 3637136

X: 399749.3

Quality Control Results

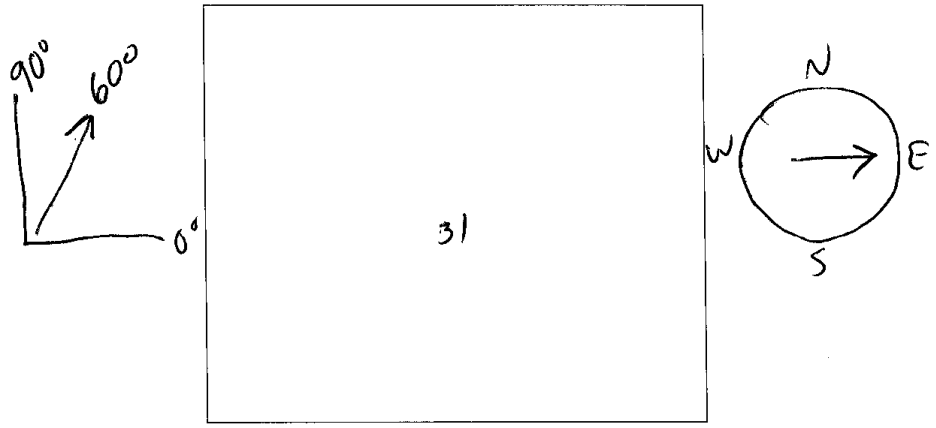
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / dos / RKB

Remarks:

½ diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B02	Flag # 32	Date 6-24-04

Team 1 / Team 2

Photo: B02-032

Item Description: 10 lbs sheet metal pieces

Condition: 1 inch to 2ft x 1ft

Depth: 2 ft

GPS Coordinates:

Y: 3637139

X: 399737.3

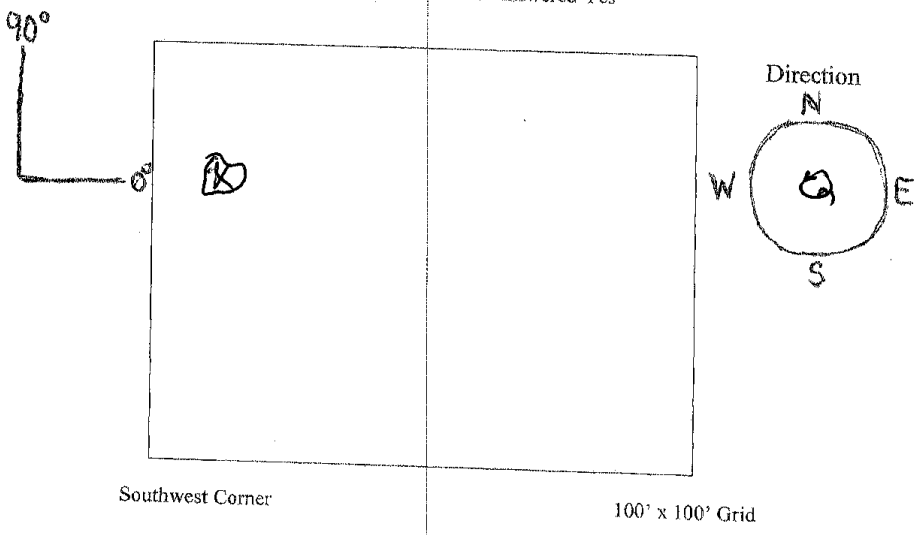
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		20+

Passed Inspection: Yes / [illegible] / [illegible]

Remarks:
24" Deep
Multiple pieces
Largest piece 24" X 12"

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B03	Flag # 33	Date 6/15/04

Team 1 / Team 2

Photo: B03-033

Item Description: Rebar

Condition: N/A

Depth: 8"

GPS Coordinates:

Y: 3637143

X: 399792.6

Quality Control Results

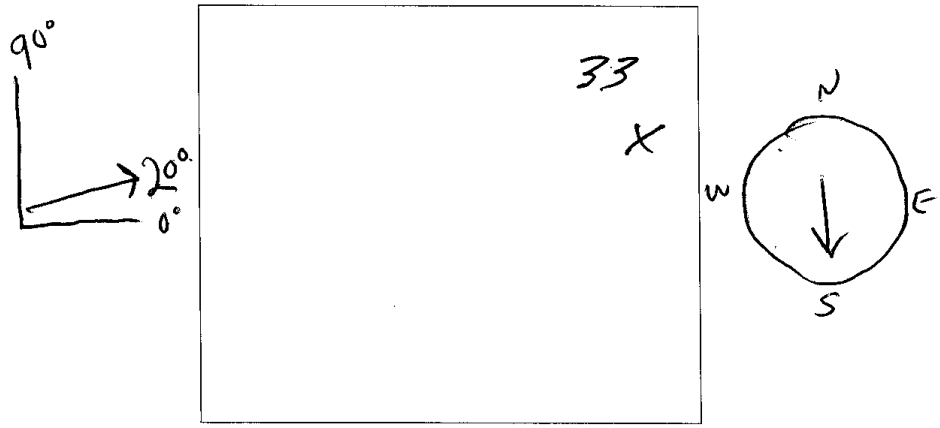
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AHS / RCB

Remarks:

Rebar 18" x 1"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # 8B3	Flag # 34	Date 6/15/04

Team 1 / Team 2

Photo: B63-034

Item Description: Steel pipe

Condition: N/A

Depth: Surface

GPS Coordinates:

Y: 3637145

X: 399773.9

Quality Control Results

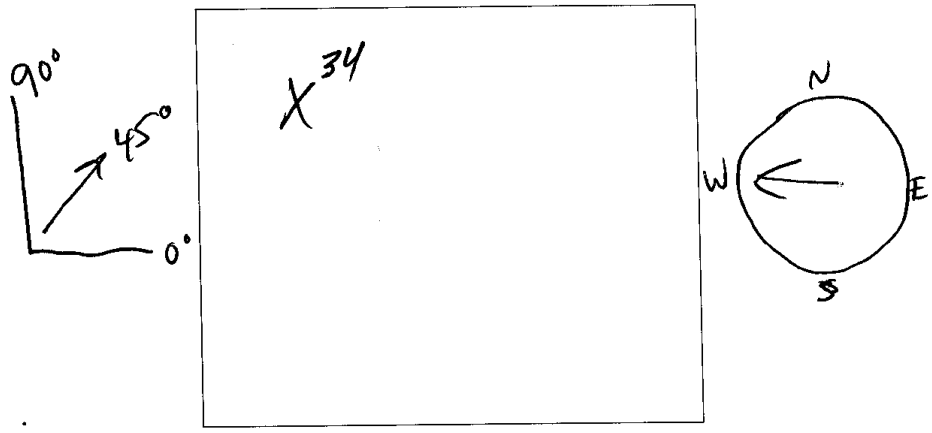
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / XPB / RHB

Remarks:

Steel pipe 9"x1"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # B02	Flag # 35	Date 6/15/04

Team 1 / Team 2

Photo: B02-035

Item Description: 8" piece steel conduit

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 3637147

X: 399764.1

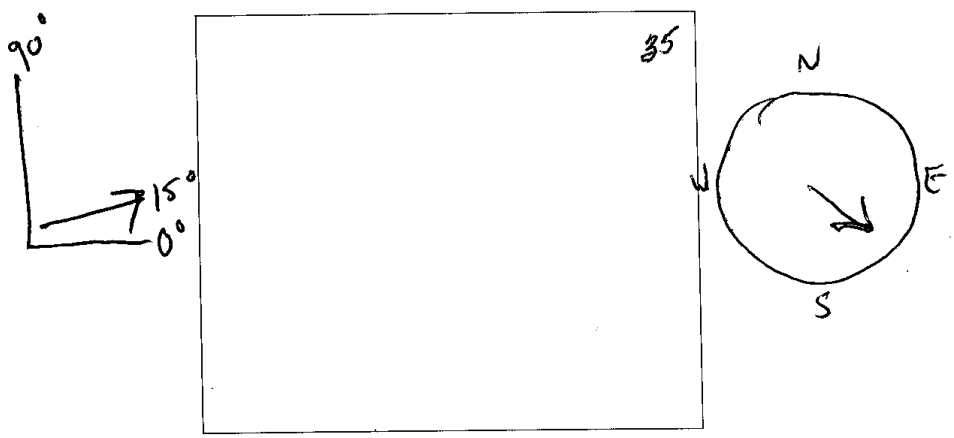
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / DDD / RLB

Remarks:
8" x 1" diameter

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C01	Flag # 36	Date 6/16/04

Team 1 / Team 2

Photo: C01 - 036

Item Description: Auto Part Brake 6"x3" Res.

Condition: N/A

Depth: 18"

GPS Coordinates:

Y: 3637149

X: 399728.7

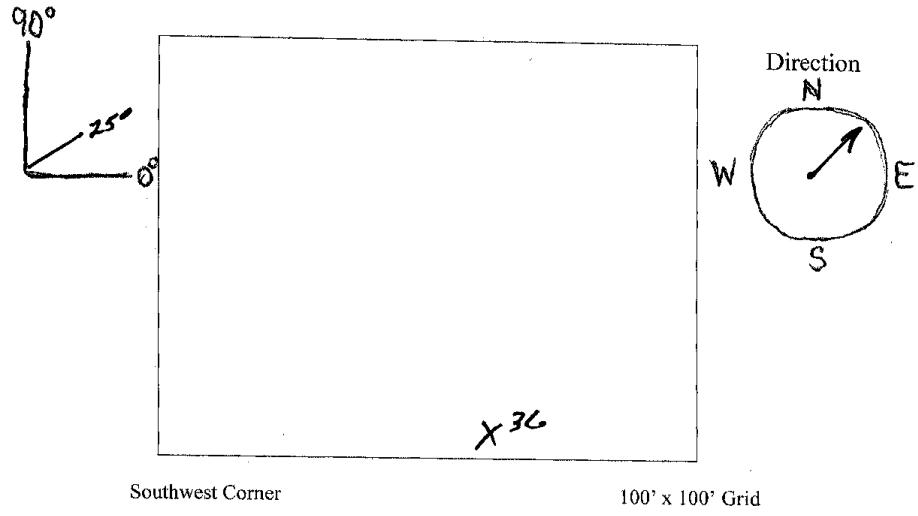
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~Ans~~ / ~~RCB~~

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 37	Date 6/16/04

Team 1 / Team 2

Photo: C02-037

Item Description: Steel pipe 1" dia. 96" Lg.

Condition:

Depth: 10

GPS Coordinates:

Y: 3637153

X: 399745.3

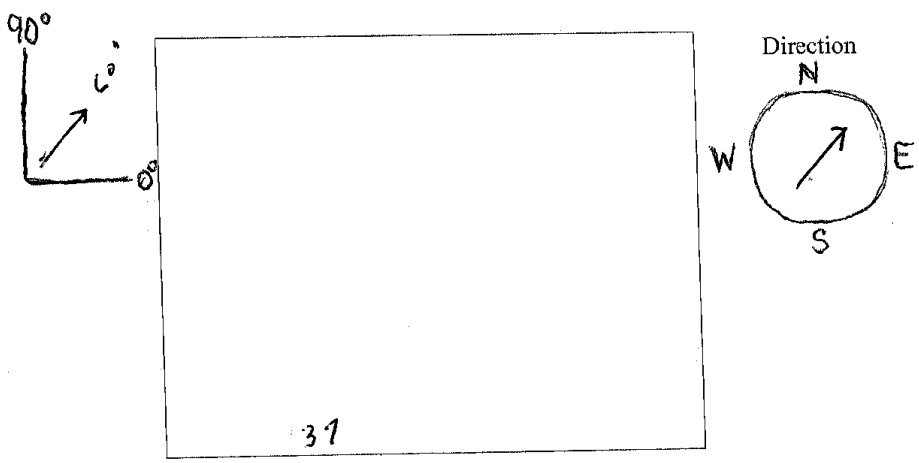
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ADB / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 38	Date 6/16/04

Team 1 / Team 2

Photo: C02-038

Item Description: Steel pipe 3/4" dia 12" Lg.

Condition: Rusty

Depth: 10"

GPS Coordinates:

Y: 3637153

X: 399749.9

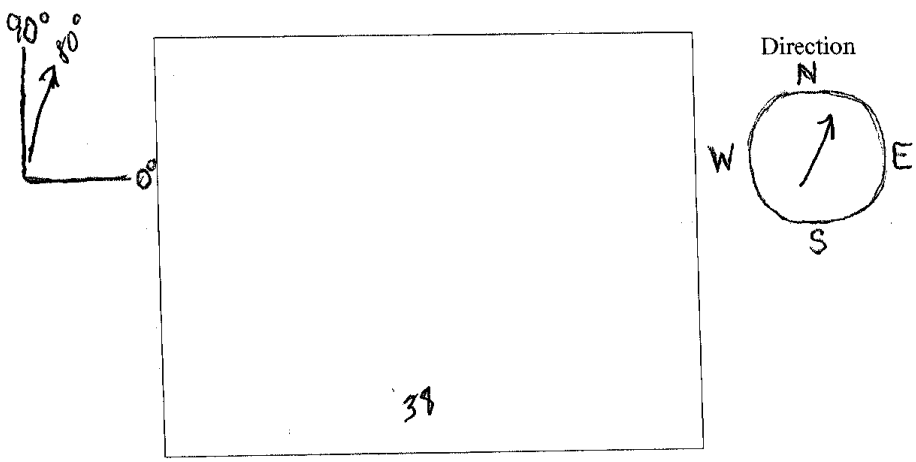
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/Ab/RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 39	Date 6/17/04

Team 1 / Team 2

Photo: C02-039

Item Description: Rod that holds Mud Flap on Trk 3/4" dia 36" Lg.

Condition: Rusty

Depth: 4"

GPS Coordinates:

Y: 3637155

X: 399756.3

Quality Control Results

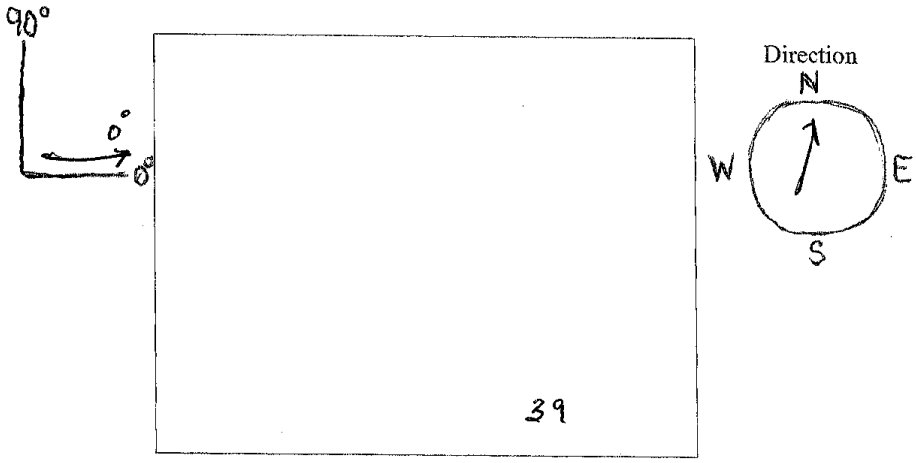
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/AOD/RLB

Remarks:

36" X 3/4"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C01	Flag # 40	Date 6/16/04

Team 1 / Team 2 (Team 2 circled)

Photo: C01-040

Item Description: Nail 1½"

Condition: N/A

Depth: 3"

GPS Coordinates:

Y: 3637153

X: 399723.9

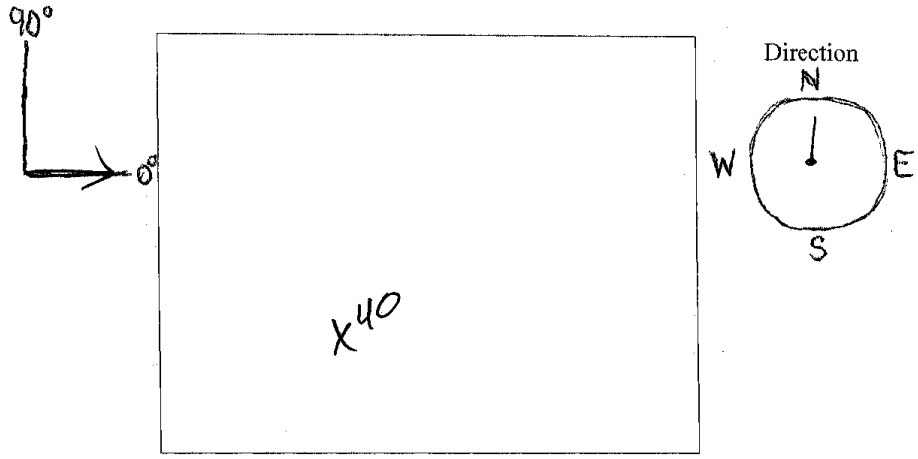
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AHB / BCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C03	Flag # 41	Date 6/17/04

Team 1 / Team 2

Photo: C03-041

Item Description: Metal disk 6" Lg. [redacted]

Condition: Rusty

Depth: 1"

GPS Coordinates:

Y: 3637157

X: 399779.1

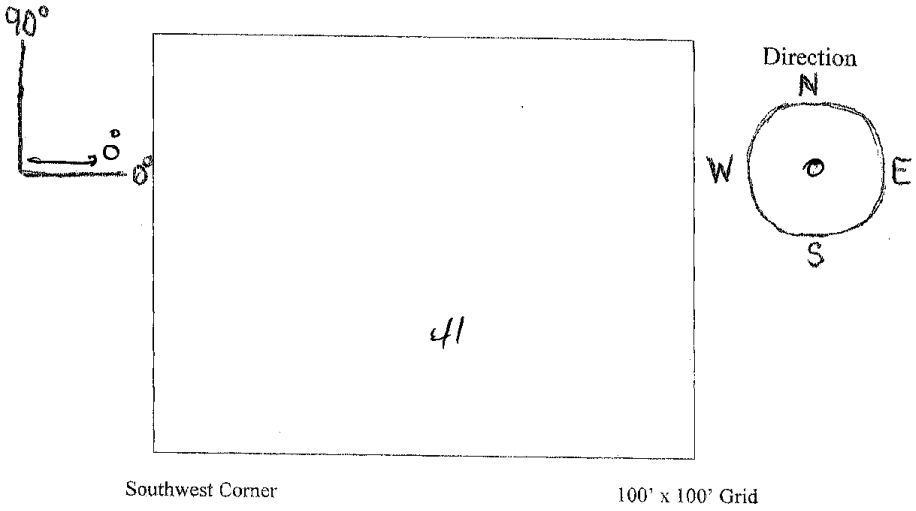
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~AHB~~ / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature: SDB

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 42	Date 6/16/04

Team 1 / Team 2

Photo: C02-042

Item Description: 2 nails 3" LS.

Condition: Rusty

Depth: 1"

GPS Coordinates:

Y: 3637156

X: 399746.7

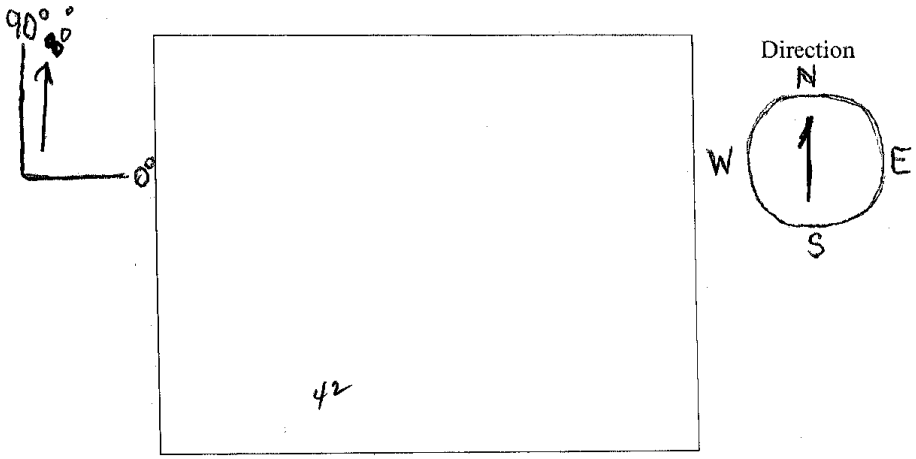
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		2

Passed Inspection: Yes / AMS / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C03	Flag # 43	Date 6/17/04

Team 1 / Team 2

Photo: C03-043

Item Description: 2ea. Steel pipe 3/4" dia 30" LS.

Condition: Rusty

Depth: 12"

GPS Coordinates:

Y: 3637157

X: 399767.9

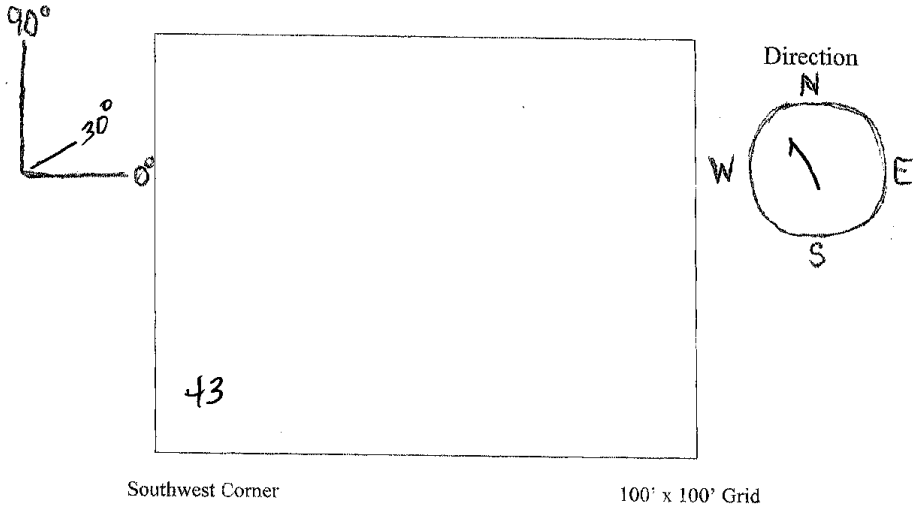
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		2

Passed Inspection: Yes/~~No~~/RB

Remarks:
2EA. pieces steel pipe

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C03	Flag # 44	Date 6/17/04

~~Team 1~~ / Team 2

Photo: C03-044

Item Description: Steel conduit 3/4" dia 12" Lg

Condition: Rusty

Depth: 2"

GPS Coordinates:

Y: 3637157

X: 399769.9

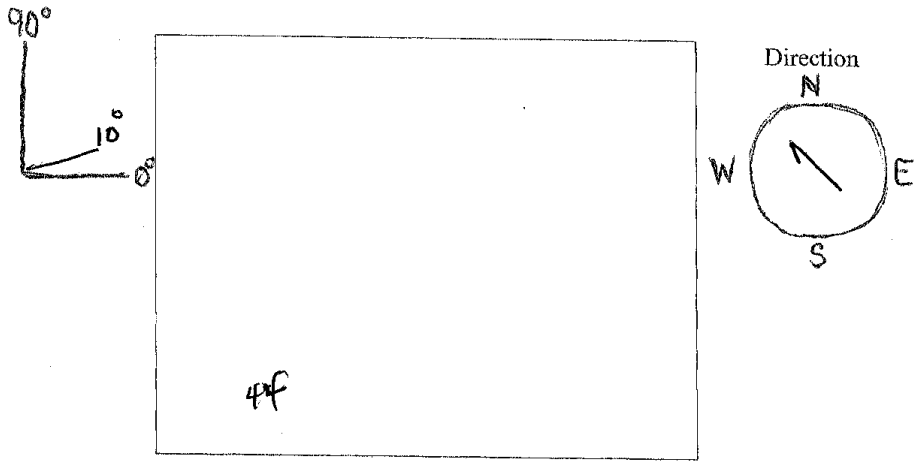
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / ~~N/A~~

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 45	Date 6/17/04

Team 1 / Team 2

Photo: C02-045

Item Description: Steel Rod 1/4" dia 10" Lg

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 3637158

X: 399754.1

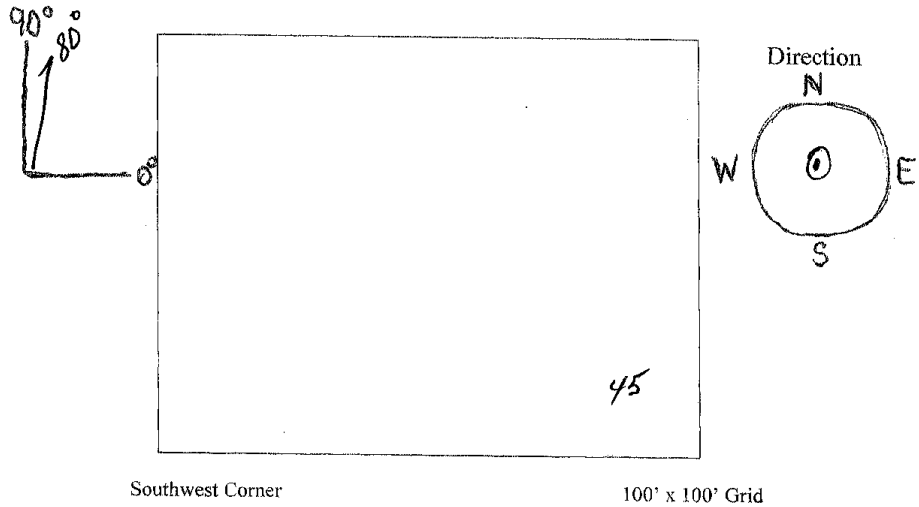
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AOB / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 46	Date 6/17/04

Team 1 / Team 2

Photo: C02-046

Item Description: Steel pipe 1½" dia 12" Lg

Condition: Rust

Depth: 24"

GPS Coordinates:

Y: 3637159

X: 399761.3

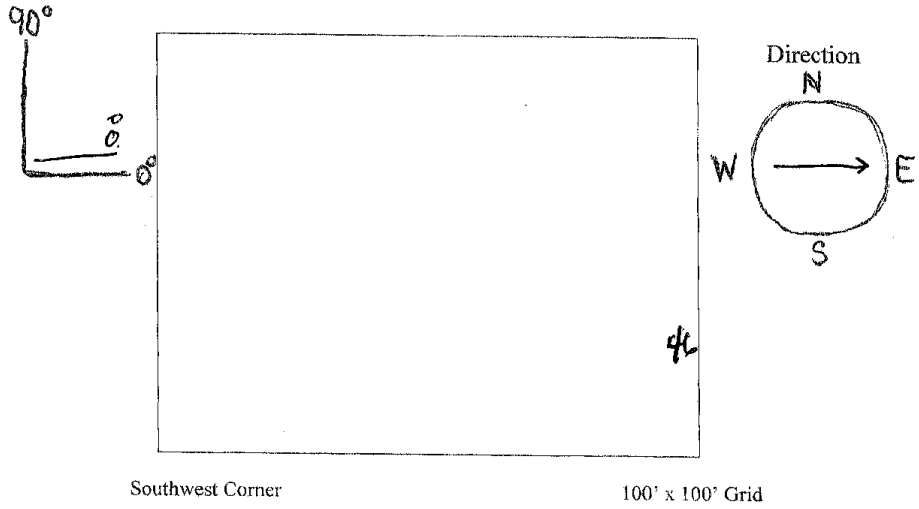
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: YES/NO/RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 47	Date 6/16/04

Team 1 / Team 2

Photo: C02 -047

Item Description: Steel conduit 3/4" dia. 14"29/copper wire 36"

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 3637160

X: 399743.3

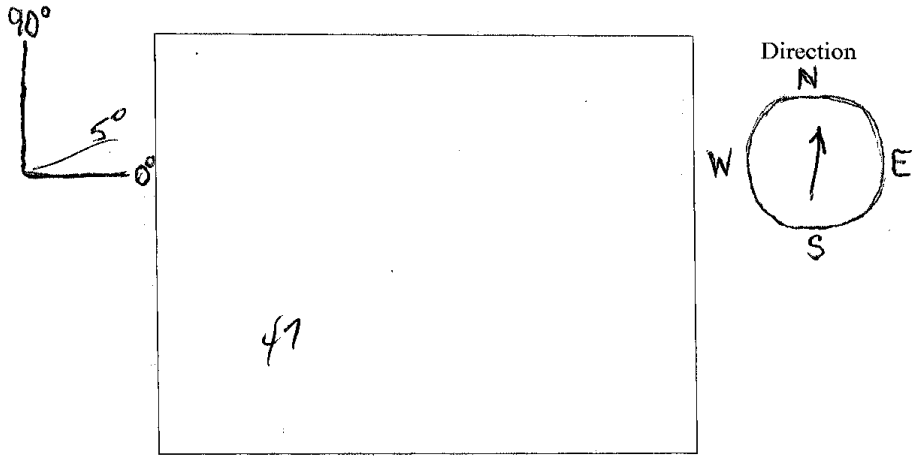
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		2

Passed Inspection: Yes/Ads/RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans	Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 48	Date 6/16/04

Team 1 / Team 2

Photo: C02-048

Item Description: Steel pipe 3/4" dia 48" Lg

Condition: Rusty

Depth: 8"

GPS Coordinates:

Y: 3637163

X: 399750.3

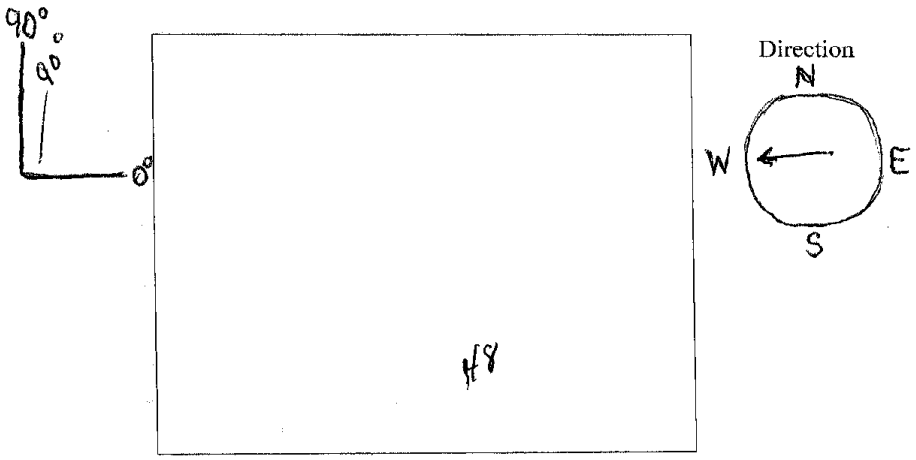
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/~~Abs~~/~~SES~~

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid #C03	Flag #49	Date 6/17/04

Team 1 / Team 2

Photo: C03-049

Item Description: Steel pipe 3/4" dia 30" LG

Condition:

Depth: 6"

GPS Coordinates:

Y: 3637164

X: 399767.5

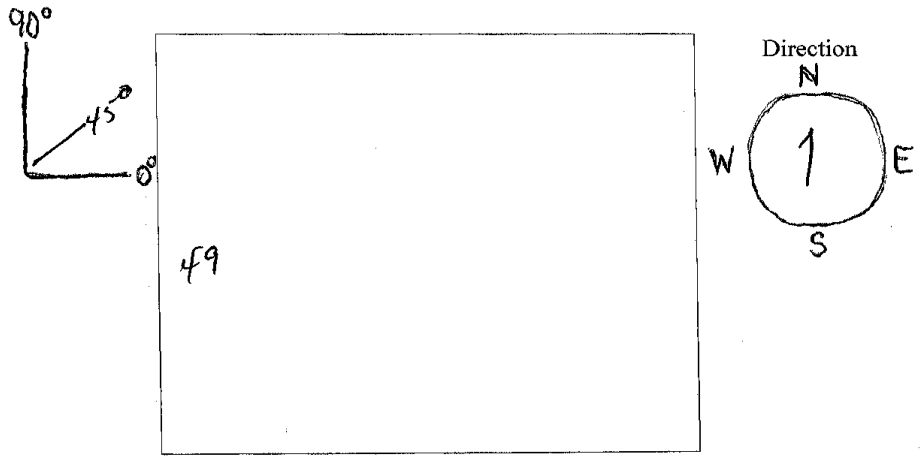
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / HAS / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 50	Date 6/16/04

Team 1 / Team 2

Photo: C02-050

Item Description: Steel pipe 1/2 dia 8" Lg.

Condition: Rusty

Depth: 2"

GPS Coordinates:

Y: 3637169

X: 399746.3

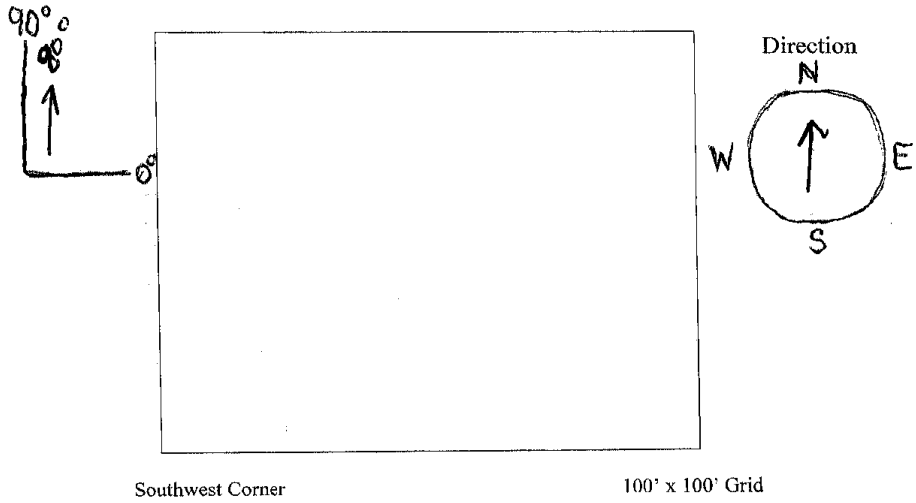
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AMB / RKB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C01	Flag # 51	Date 6/16/04

Team 1 / Team 2

Photo: C01-051

Item Description: Alum. ~~Thrustate~~ 4"

Condition: N/A

Depth: 14"

GPS Coordinates:

Y: 3637165

X: 399727.9

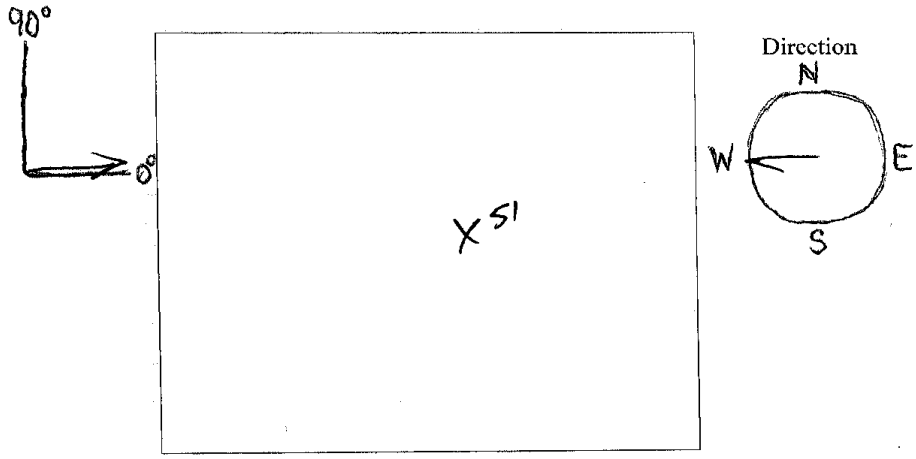
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 52	Date 6/16/04

Team 1 / Team 2

Photo: C02-052

Item Description: Steel conduit 6" lg. 1/2" dia.

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 3637166

X: 399736.9

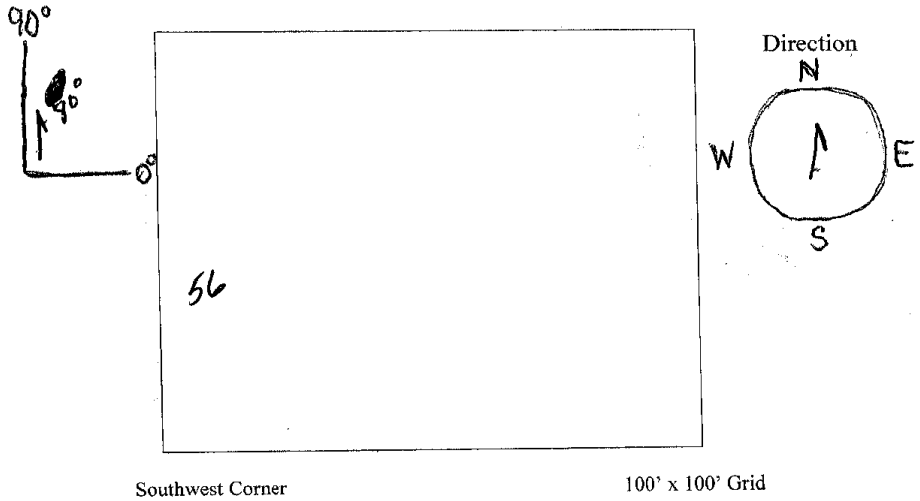
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AMB / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C03	Flag # 53	Date 6/17/04

Team 1 / Team 2

Photo: C03-053/054

Item Description: Steel pipe 3/4" dia. 18" Lg'

Condition: Rusty

Depth: 3"

GPS Coordinates:

Y: 3637167

X: 399771.7

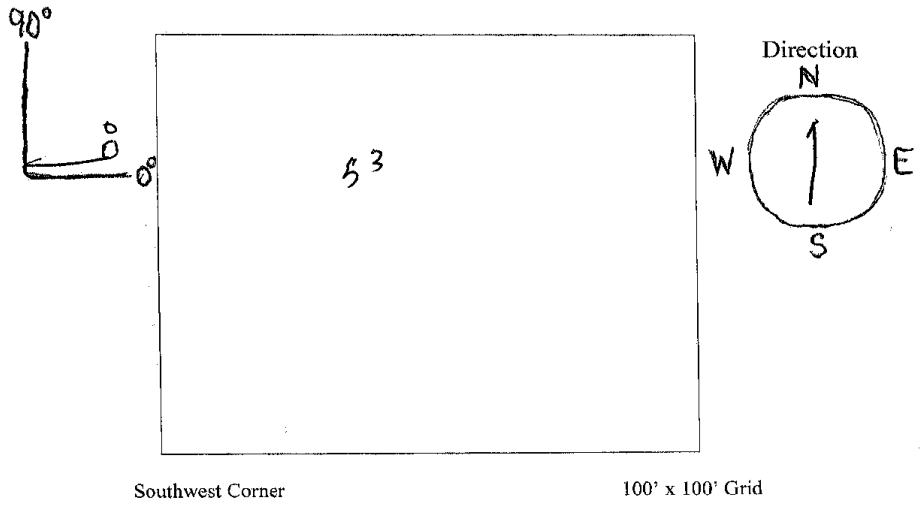
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/1m/RCB

Remarks:
SAME as Flag 54

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans	Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C03	Flag # 54	Date 6/17/04

Team 1 / Team 2

Photo: C03-053/054

Item Description: Steel pipe 3/4" dia 18" Lg

Condition: Rusty

Depth: 3"

GPS Coordinates:

Y: 3637167

X: 399773.1

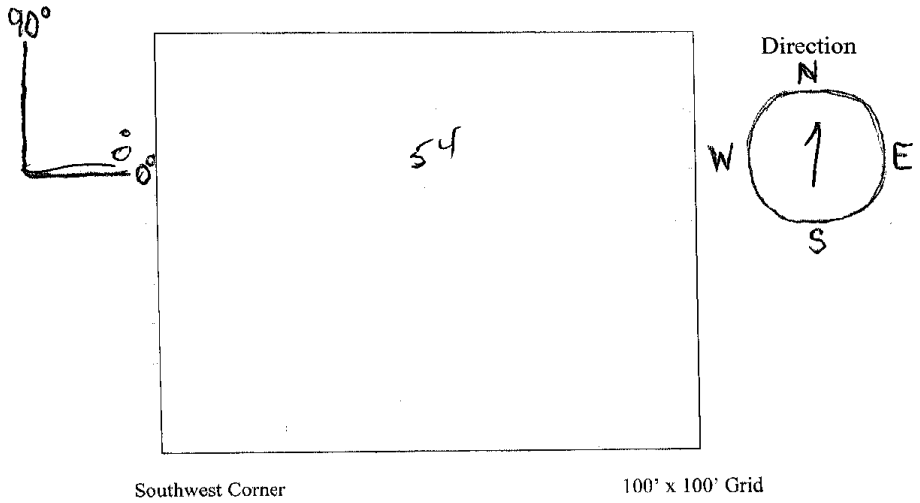
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/ ARS / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 55	Date 6/16/04

Team 1 / Team 2

Photo: C02-055

Item Description: Copper pipe 8" lg 1/2 dia

Condition:

Depth: Surface

GPS Coordinates:

Y: 3637167

X: 399744.3

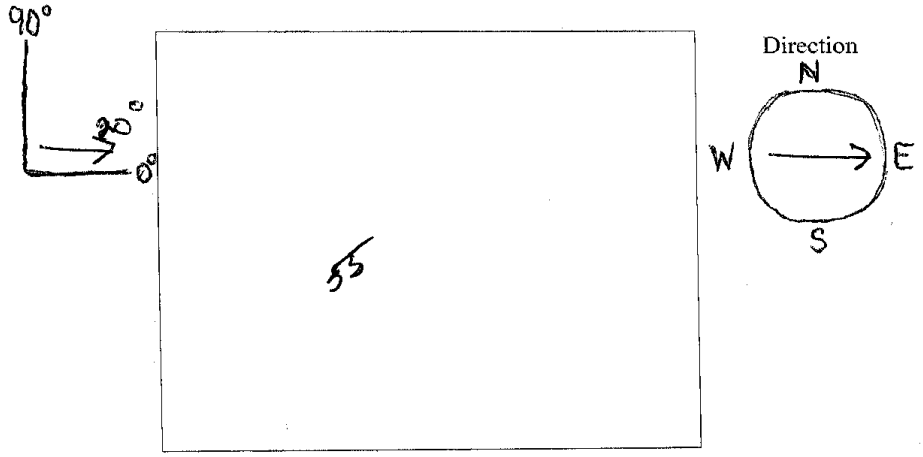
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/Ats/RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C01	Flag # 56	Date 6/16/04

Team 1 / Team 2

Photo: C01 -056

Item Description: Pipe & Valve ~~1" x 8"~~ JDB

Condition: N/A

Depth: 8"

GPS Coordinates:

Y: 3637168

X: 399728.3

Quality Control Results

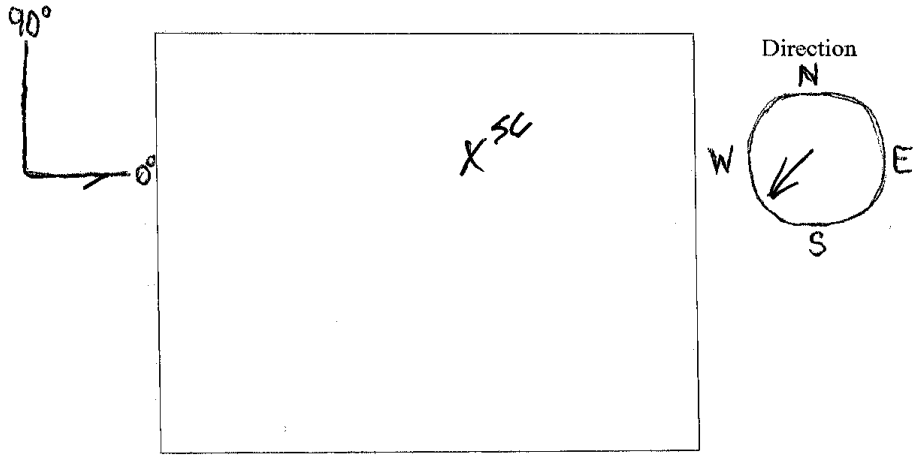
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / JDB / RLB

Remarks:

8"X1"

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C04	Flag # 57	Date 6/17/04

Team 1 / Team 2 (Team 2 circled)

Photo: C04-057

Item Description: Beer Can

Condition: Flat

Depth: 28"

GPS Coordinates:

Y: 3637169

X: 399812

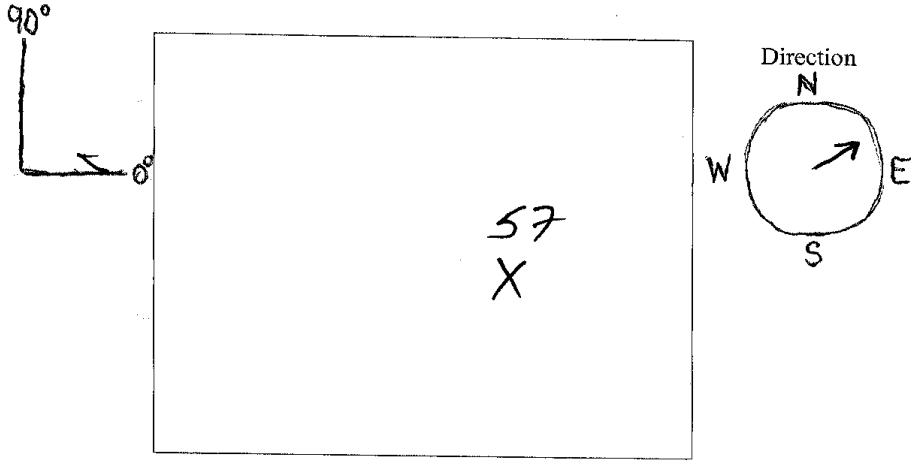
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / DOS / BLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 58	Date 6/16/04

~~Team 1~~ / Team 2

Photo: C02-058

Item Description: Steel conduit 1/2 dia 16" Lg

Condition: Rusty

Depth: 1"

GPS Coordinates:

Y: 3637170

X: 399738.7

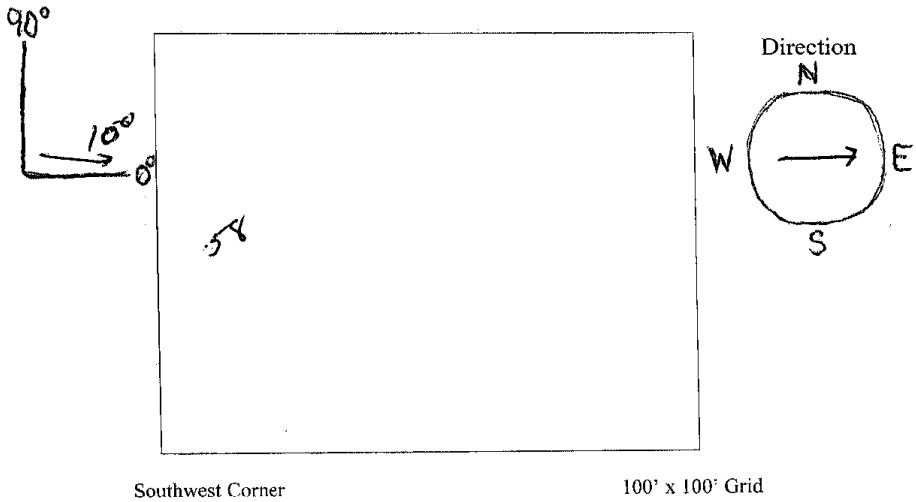
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AMS / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C03	Flag # 59	Date 6/17/04

Team 1 / Team 2

Photo: C03-059

Item Description: Steel pipe 3/4 dia 15" Lg

Condition: Rusty

Depth: 24" deep

GPS Coordinates:

Y: 3637171

X: 399770.5

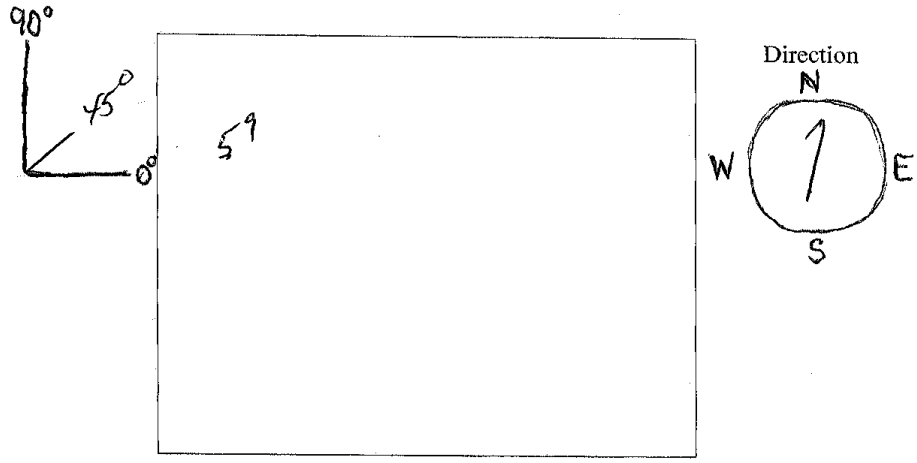
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / Rob / RKB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C01	Flag # 60	Date 6/16/04

Team 1 / Team 2

Photo: C01 - 060

Item Description: Pipe 2"x3"

Condition: N/A

Depth: 12"

GPS Coordinates:

Y: 3637171

X: 399733.1

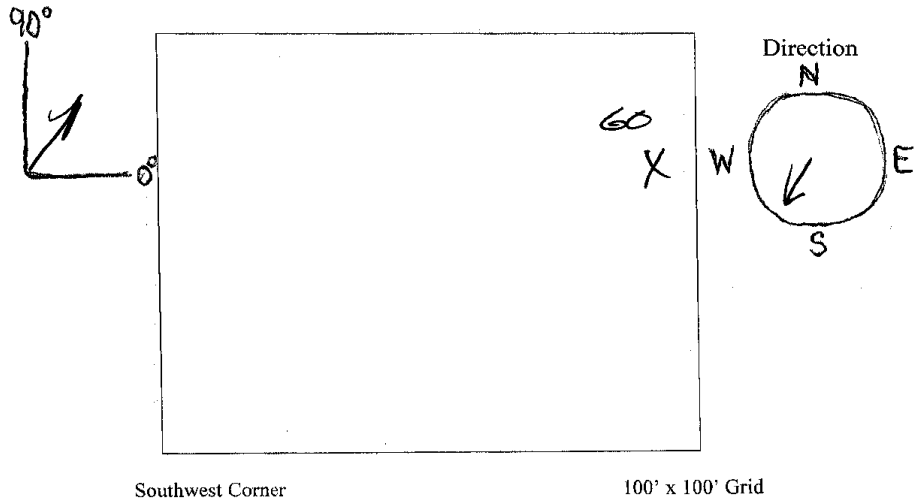
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / APH / RRB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 61	Date 6/16/04

Team 1 Team 2

Photo: C02-061

Item Description: Trigger off Toy gun

Condition:

Depth: 6"

GPS Coordinates:

Y: 3637172

X: 399749.1

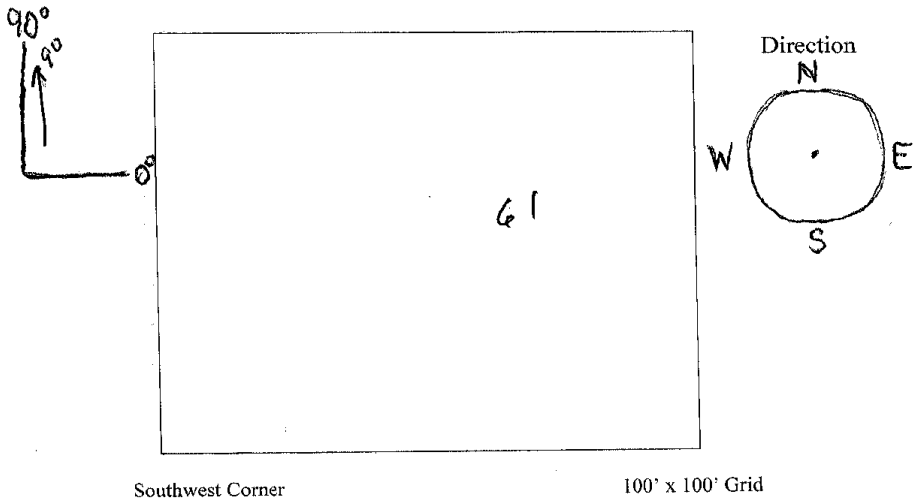
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / Yes / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 62	Date 6/16/04

Team 1 / Team 2

Photo: C02-062

Item Description: Nail 2" lg

Condition: flush

Depth: 2"

GPS Coordinates:

Y: 3637175

X: 399745.1

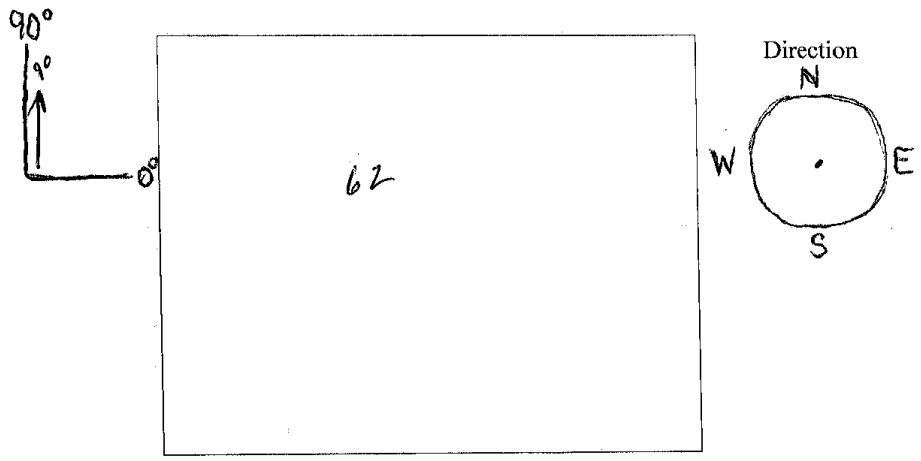
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/AOS/RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 63	Date 6/17/04

Team 1 / Team 2

Photo: C02-063

Item Description: Steel conduit 1 1/4" dia. 7" Lg

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 3637180

X: 399750.7

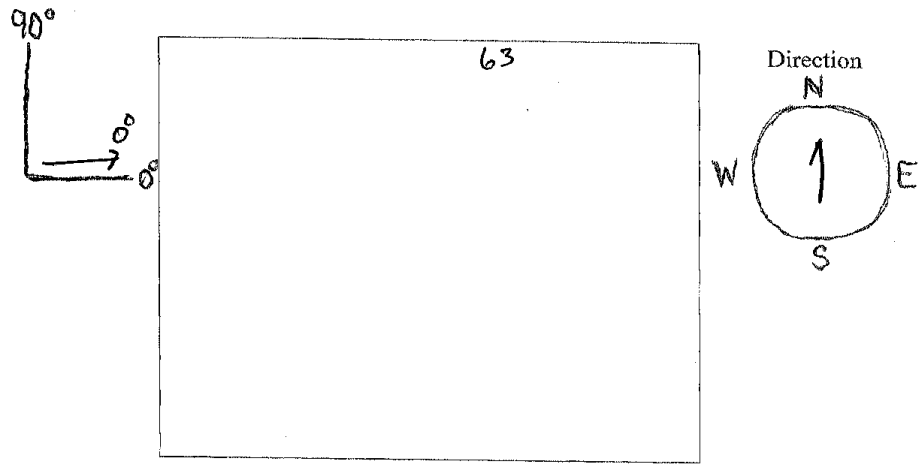
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/ADS/RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid #C02	Flag #64	Date 6/16/04

Team 1 / Team 2

Photo: C02-064

Item Description: Steel pipe 1" dia 10" Lg.

Condition: Rusty

Depth: 6"

GPS Coordinates:

Y: 363714

X: 399744.9

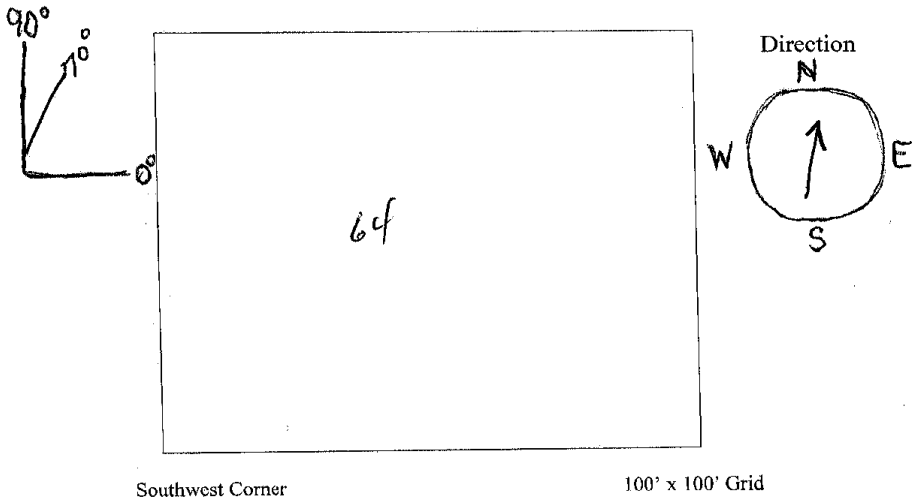
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/DAB/RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 65	Date 6/16/04

Team 1 / Team 2

Photo: C02-065

Item Description: Nail 3" Lg

Condition: Rusty

Depth: 2"

GPS Coordinates:

Y: 3637175

X: 399746.5

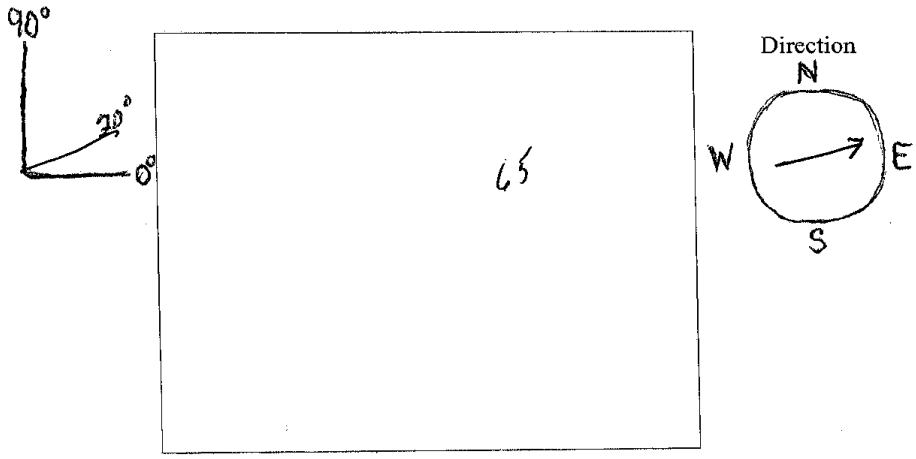
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 66	Date 6/17/04

Team 1 / Team 2

Photo: C02-066

Item Description: Steel conduit 3/4" dia, 10" LS.

Condition: Rusty

Depth: 4"

GPS Coordinates:

Y: 3637177

X: 399747.7

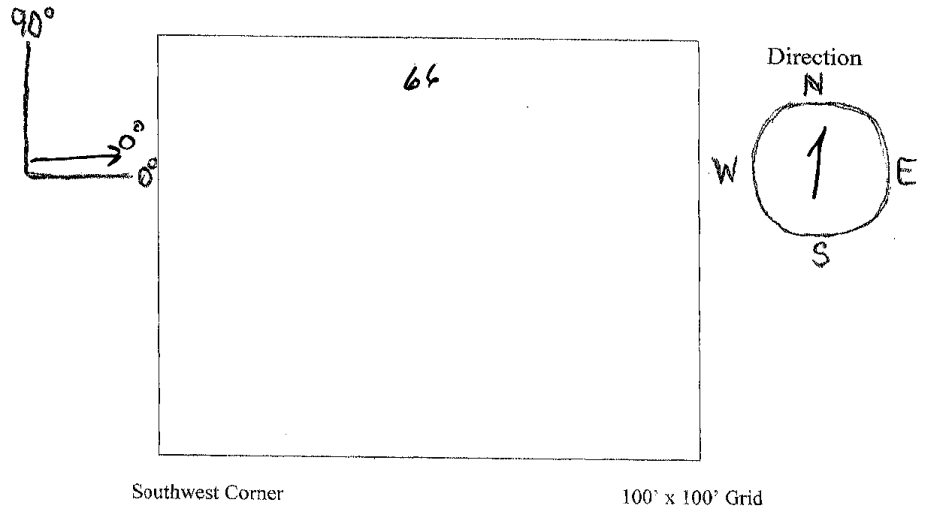
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / DMB / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 67	Date 6/16/04

Team 1 / Team 2

Photo: C02-067

Item Description: Steel pipe 3/4" dia. 12" Lg

Condition: Rusty

Depth: 4"

GPS Coordinates:

Y: 3637176

X: 399746.1

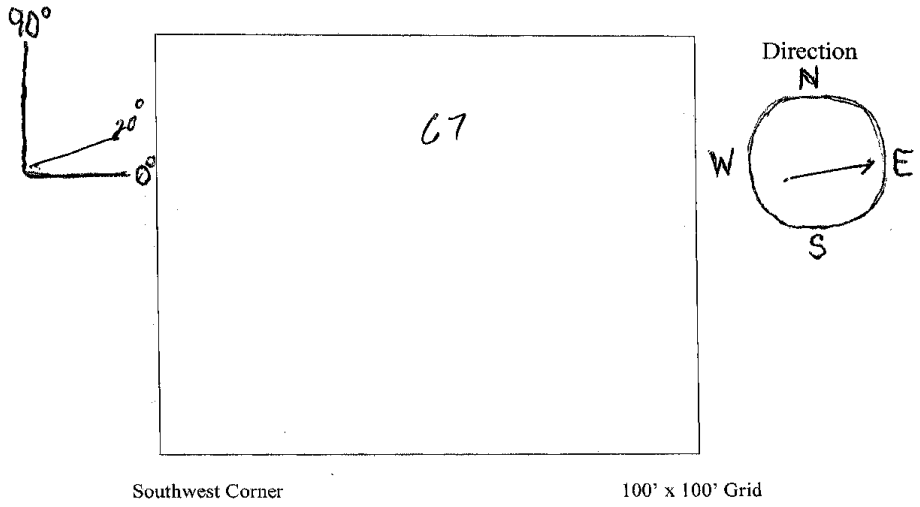
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/Ross/RKB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # Cty	Flag # 68	Date 6/17/04

Team 1 / Team 2

Photo: C04-068

Item Description: ~~Engine Block~~ Intake Mani. Fold

Condition: 60LBS 4"x12"x18"

Depth: 4"

GPS Coordinates:

Y: 363717.5

X: 399805.2

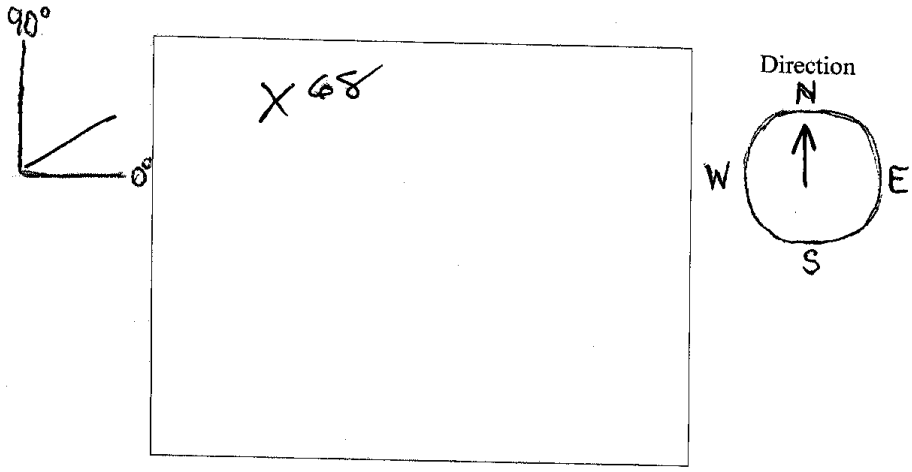
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AOM / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 69	Date 6/17/04

Team 1 / Team 2

Photo: C02-069

Item Description: Steel Conduit 3/4" dia 7" Lg'

Condition: Rusty

Depth: 3"

GPS Coordinates:

Y: 3637175

X: 399761.1

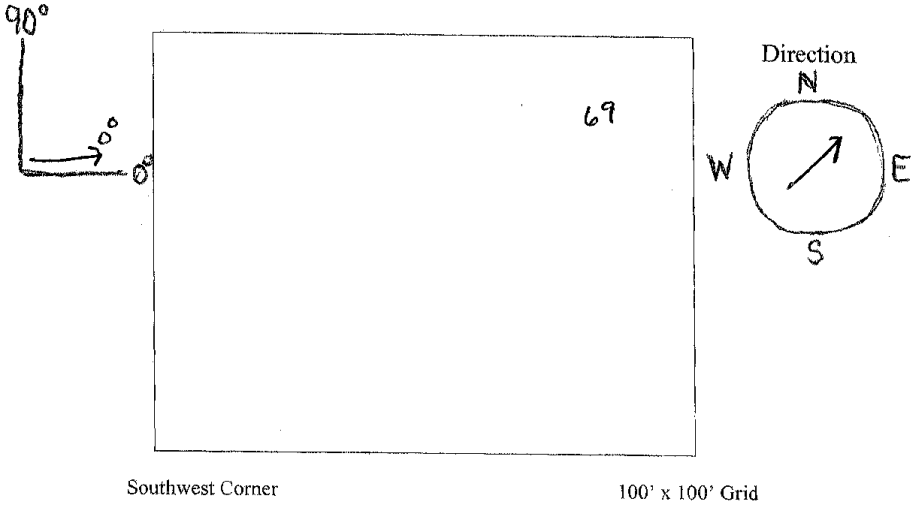
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AB / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C03	Flag # 70	Date 6/17/04

Team 1 (Team 2)

Photo: C03-70

Item Description: Soda Can

Condition: Crushed

Depth: 18"

GPS Coordinates:

Y: 3637175

X: 399796.8

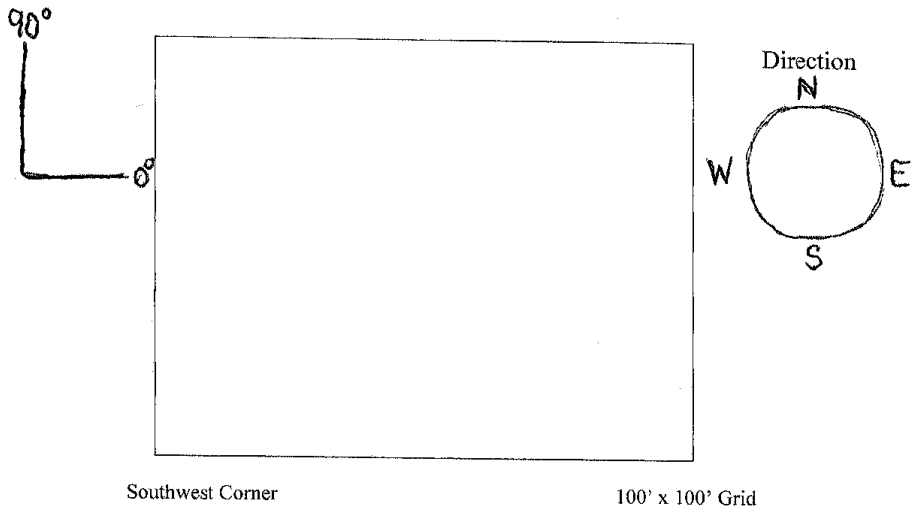
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / DMB / RTB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans

Signature:

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 71	Date 6/17/04

Team 1 Team 2

Photo: C02-071

Item Description: Nail 2" Lg, steel conduit 1" dia 24" lg

Condition:

Depth: Nail 4" pipe 2"

GPS Coordinates:

Y: 3637178

X: 399754.9

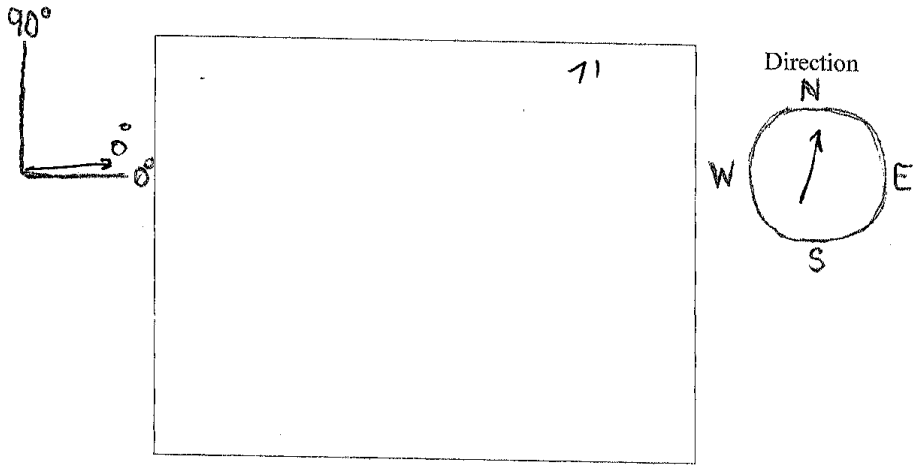
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		2

Passed Inspection: Yes/RCB/RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D02	Flag # 72	Date 6/18/04

Team 1 / Team 2

Photo: D02-072

Item Description: Steel pipe 1" 5'

Condition:

Depth: 6"

GPS Coordinates:

Y: 3637181

X: 399745.3

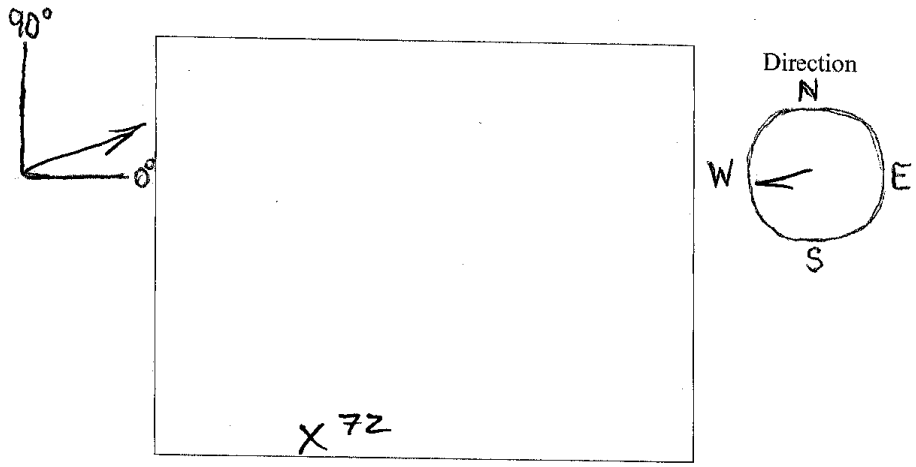
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/dots/RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 73	Date 6/17/04

Team 1 / Team 2

Photo: C02-073

Item Description: Steel conduit 3/4" dia 12" Long

Condition: Rusty

Depth: 1"

GPS Coordinates:

Y: 3637178

X: 399741.7

Quality Control Results

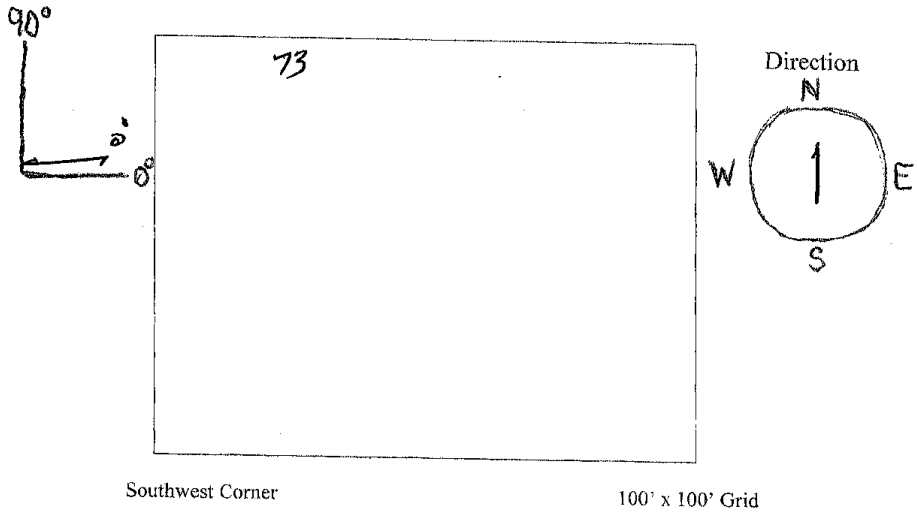
Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/AOB/RLB

Remarks:

Same conduit as Flag 75

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 74	Date 17 June 04

Team 1 / Team 2

Photo: C02-074

Item Description: metal wire 4" Lg

Condition: Rust

Depth: 4"

GPS Coordinates:

Y: 3637180

X: 399744.5

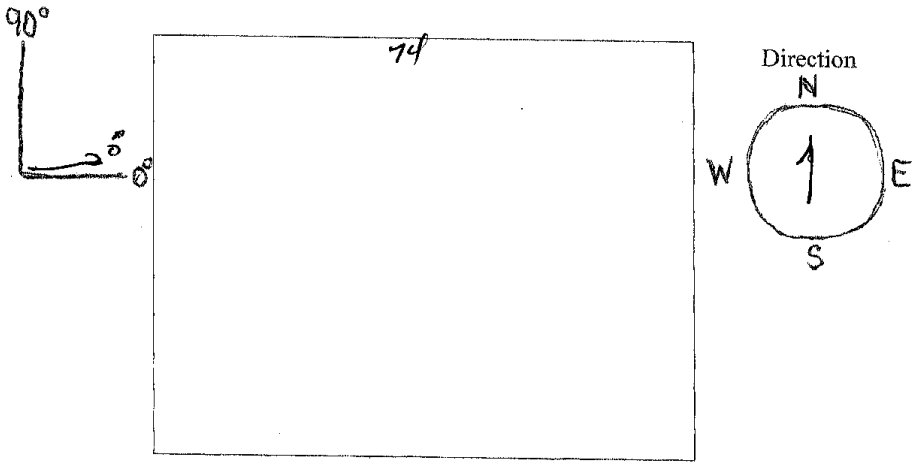
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AHS / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # C02	Flag # 15	Date 6/17/04

Team 1 / Team 2

Photo: C02-075

Item Description: Steel conduit 3/4" dia. 12" Lg

Condition: Rusty

Depth: 1"

GPS Coordinates:

Y: 3637177

X: 399741.7

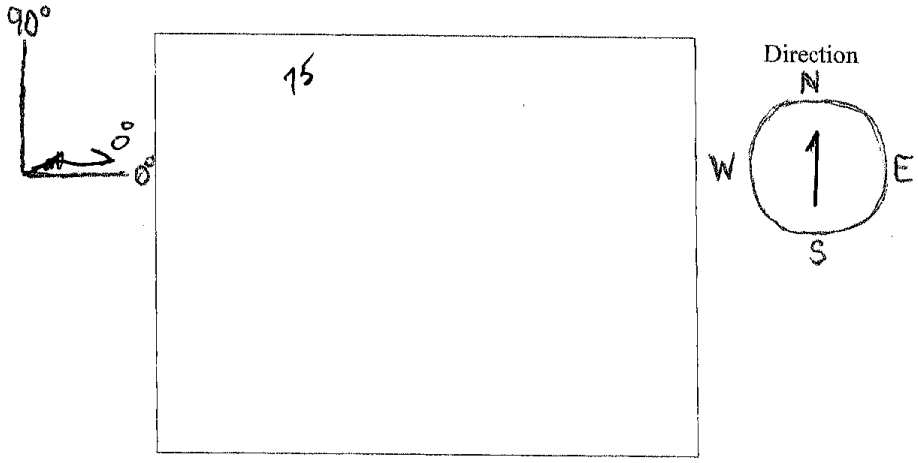
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / Jm / JRG

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP-64	Grid # D02	Flag # 76	Date 6/18/04

Team 1 / Team 2

Photo: D02-076

Item Description: Steel 1/2 x 1" x 1/2

Condition:

Depth: 2"

GPS Coordinates:

Y: 3637184

X: 399753.9

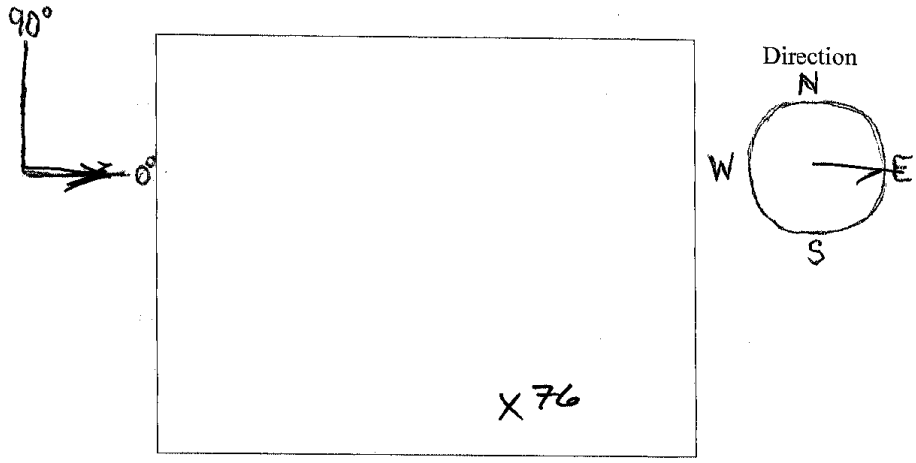
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		

Passed Inspection: Yes/DPB/RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D01	Flag # 77	Date 6/18/04

Team 1 / Team 2

Photo: D01-077

Item Description: Steel Flat Stock 20"x 1"

Condition:

Depth: 4"

GPS Coordinates:

Y: 3637185

X: 399728.3

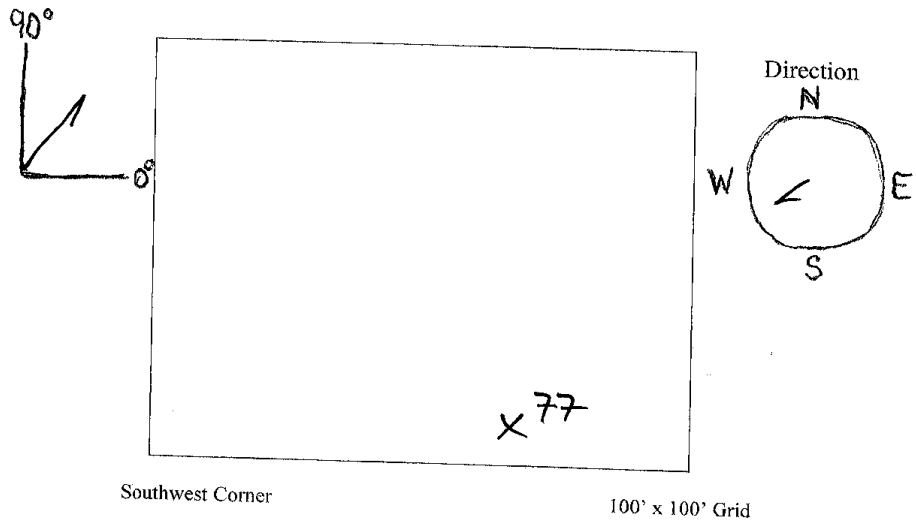
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / ~~N/A~~

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D02	Flag # 78	Date 6/18/04

Team 1 / Team 2

Photo: D02-078

Item Description: Pipe 1" x 24" 1" + 18" 1" x 12"

Condition:

Depth: ~~12"~~ 18"

GPS Coordinates:

Y: 3637188

X: 399740.3

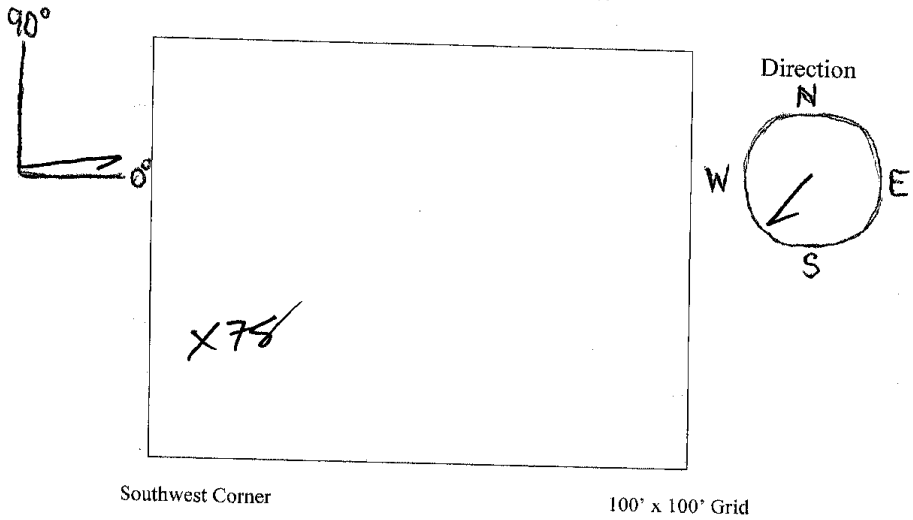
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		3

Passed Inspection: Yes / DB / JB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D01	Flag # 79	Date 6/18/04

Team 1 / Team 2

Photo: D01-079

Item Description: Pipe 16" x 1 1/2"

Condition:

Depth: 3'

GPS Coordinates:

Y: 3637189

X: 399725.5

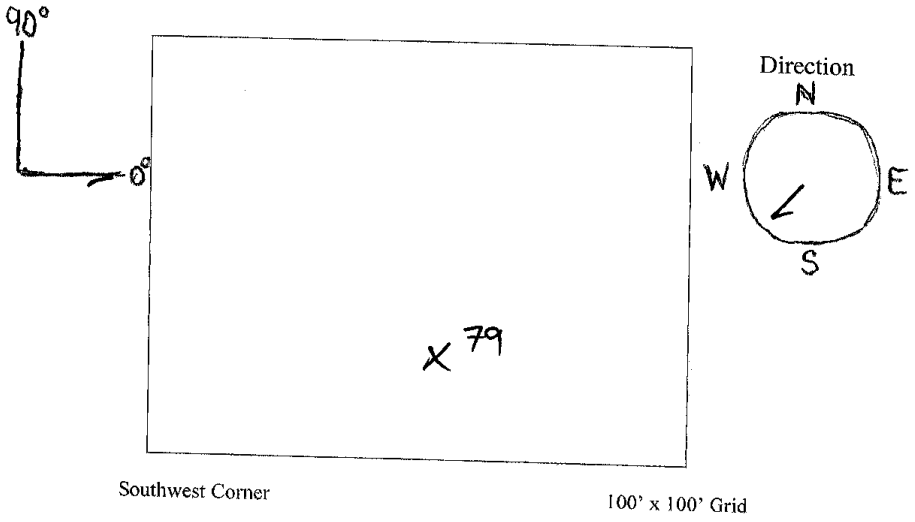
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AMS/RGB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D04	Flag # 80	Date 6/17/04

Team 1 / Team 2

Photo: D04-080

Item Description: Wire [redacted] 12"

Condition:

Depth: 1"

GPS Coordinates:

Y: 3637190

X: 399810.6

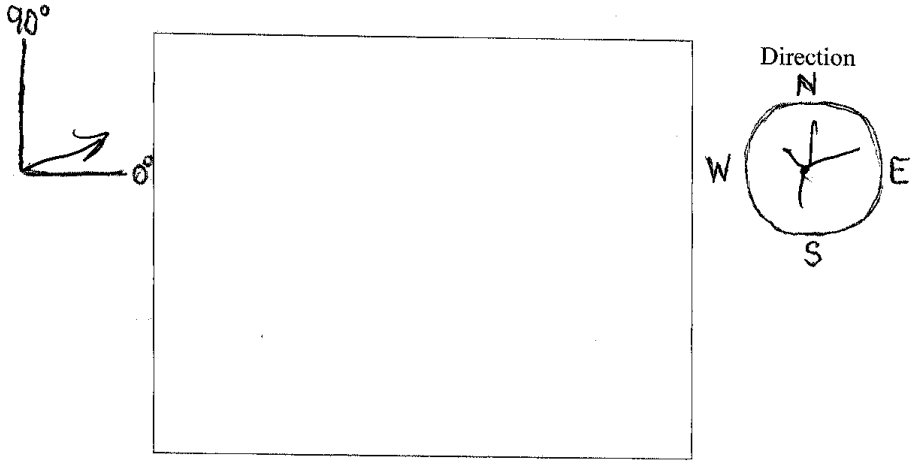
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / [illegible] / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D04	Flag # 81	Date 6/17/04

Team 1 (Team 2)

Photo: D04-081

Item Description: ~~[illegible]~~ wire

Condition: ~~[illegible]~~ "-14"

Depth: Surface

GPS Coordinates:

Y: 3637191

X: 399809.4

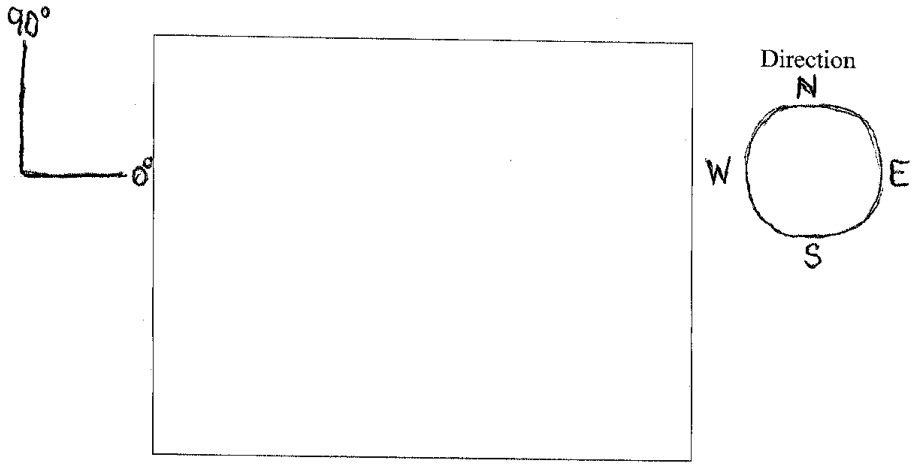
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/ADS/BHS

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # 001	Flag # 82	Date 6/18/04

Team 1 / Team 2 (Team 2 circled)

Photo: D01-082

Item Description: pipe 18" x 1"

Condition:

Depth: 4"

GPS Coordinates:

Y: 3637191

X: 399721.7

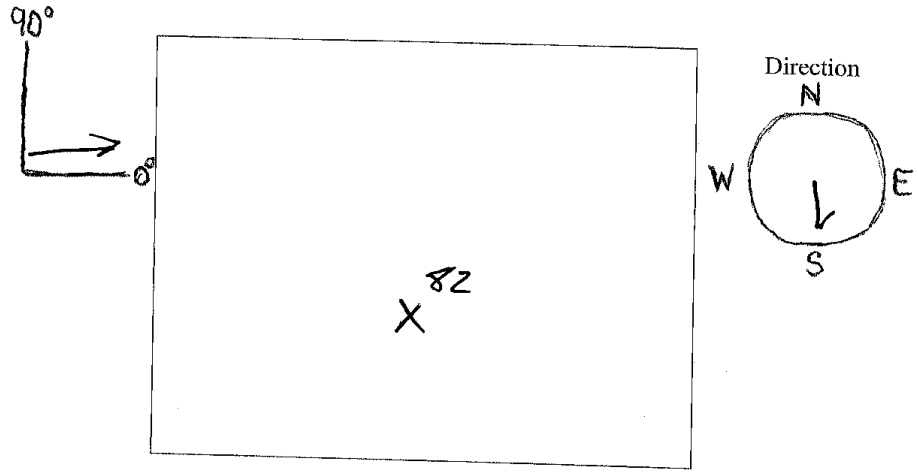
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~SDB~~ / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D82	Flag # 83	Date 6/18/04

Team 1 / Team 2

Photo: D02-083

Item Description: Steel Plate 1/4 x 2"x2" Steel Pipe 1"x8"

Condition:

Depth: 9"

GPS Coordinates:

Y: 3637193

X: 399746.1

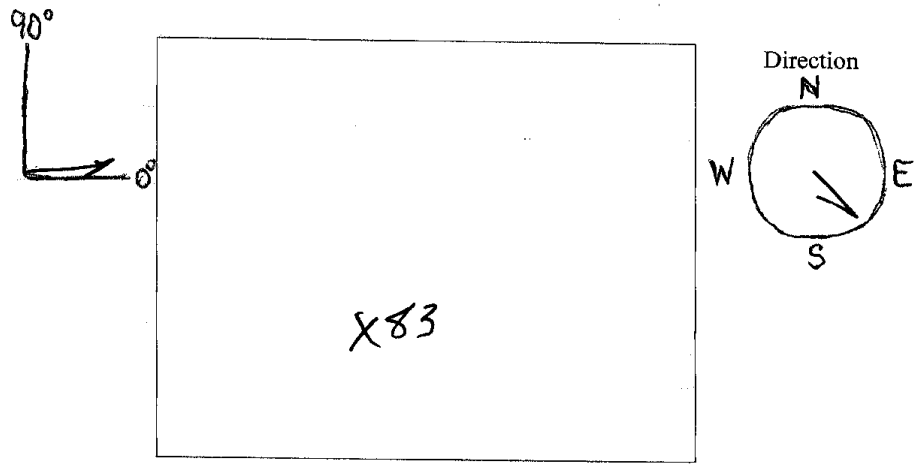
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	·
Anomalies Detected	X		2

Passed Inspection: Yes / DB / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D41	Flag # 84	Date 6/18/04

Team 1 / Team 2

Photo: D01-084

Item Description: Steel 1/4 x2"x3"

Condition:

Depth: 6"

GPS Coordinates:

Y: 3637194

X: 399734.7

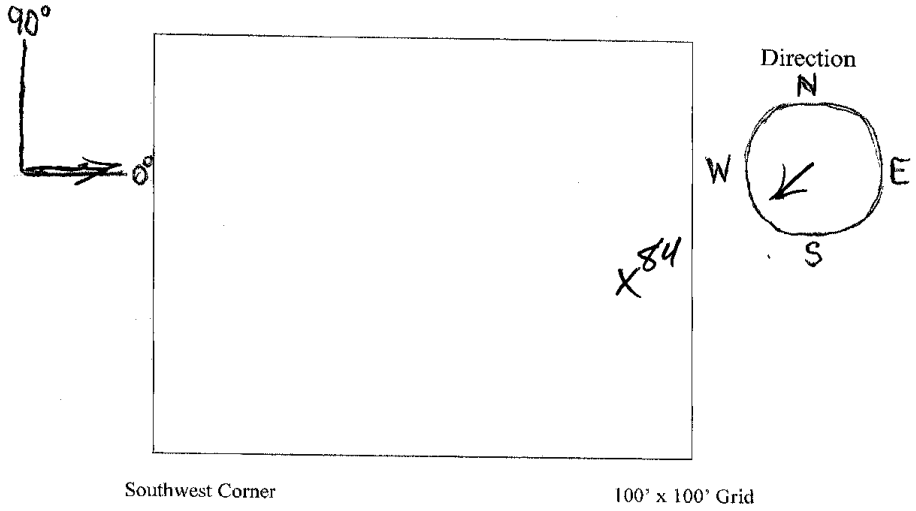
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / APB / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D02	Flag # 85	Date 6/18/04

Team 1 / Team 2

Photo: D02 - 085

Item Description: Steel Pipe 1 1/2 x 8"

Condition:

Depth: 8"

GPS Coordinates:

Y: 3637195

X: 399750.5

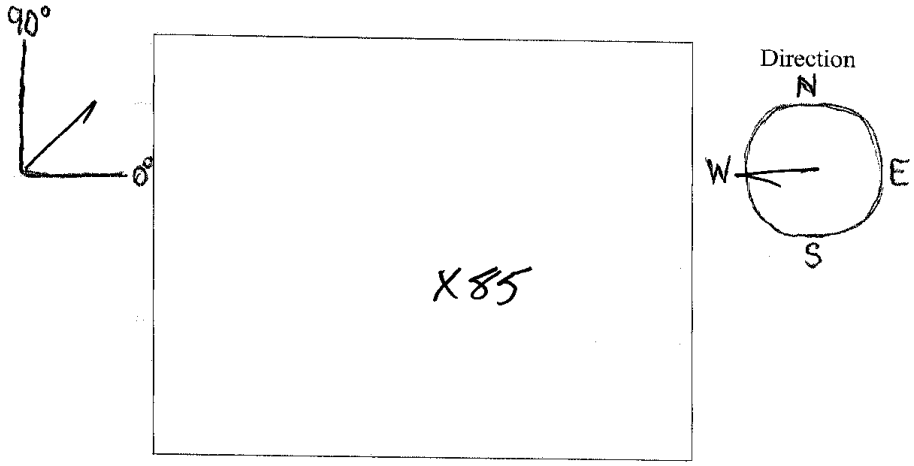
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AMB / RKB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D04	Flag # 86	Date 6/17/04

Team 1 / Team 2

Photo: D04-086

Item Description: Wire 16"

Condition:

Depth: 4"

GPS Coordinates:

Y: 3637196

X: 399814.2

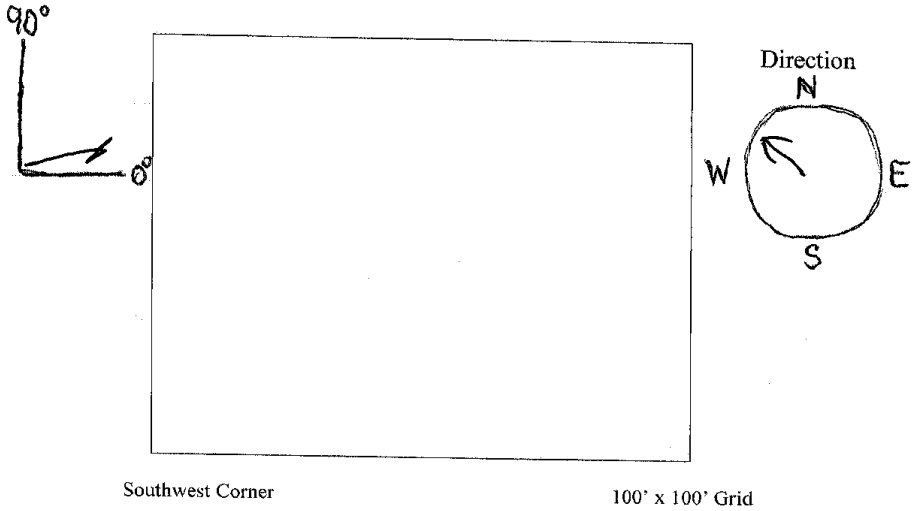
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/ MB/ RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D01	Flag # 87	Date 6/18/04

Team 1 / Team 2

Photo: D01 - 087

Item Description: Steel Rebar 6" x 1/2"

Condition:

Depth: 8"

GPS Coordinates:

Y: 3637199

X: 399731.1

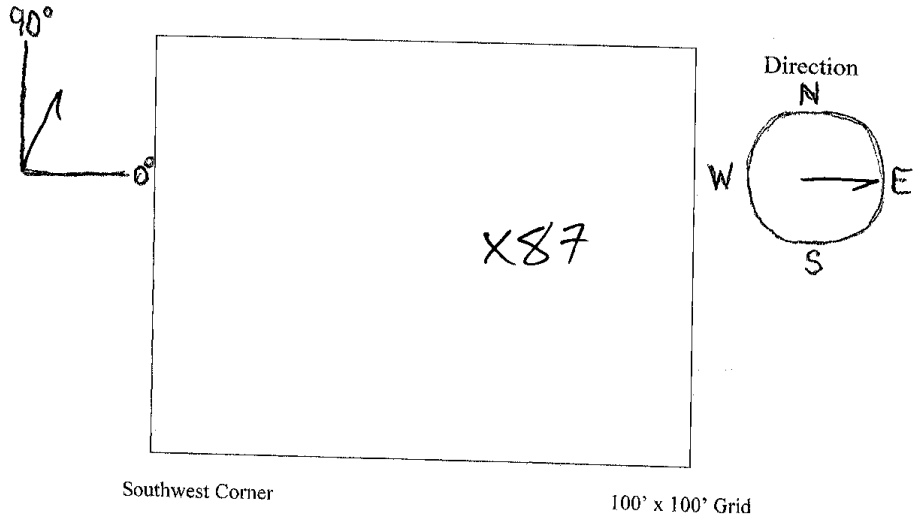
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / DOD / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # 041	Flag # 88	Date 6/18/04

Team 1 / Team 2

Photo: D01-088

Item Description: 1/4" Steel Plate 1 1/2 x 3"

Condition:

Depth: 10"

GPS Coordinates:

Y: 3637198

X: 399729.3

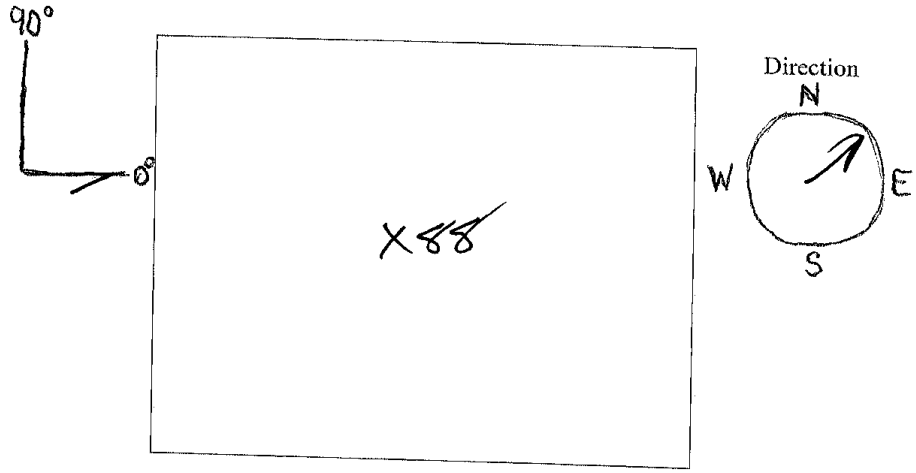
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		2

Passed Inspection: Yes/~~Not~~/RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # DØ1	Flag # 89	Date 6/18/04

Team 1 / Team 2

Photo: D01-089

Item Description: Pipe Elbow 1 1/2"

Condition:

Depth: 8"

GPS Coordinates:

Y: 3637197

X: 399727.9

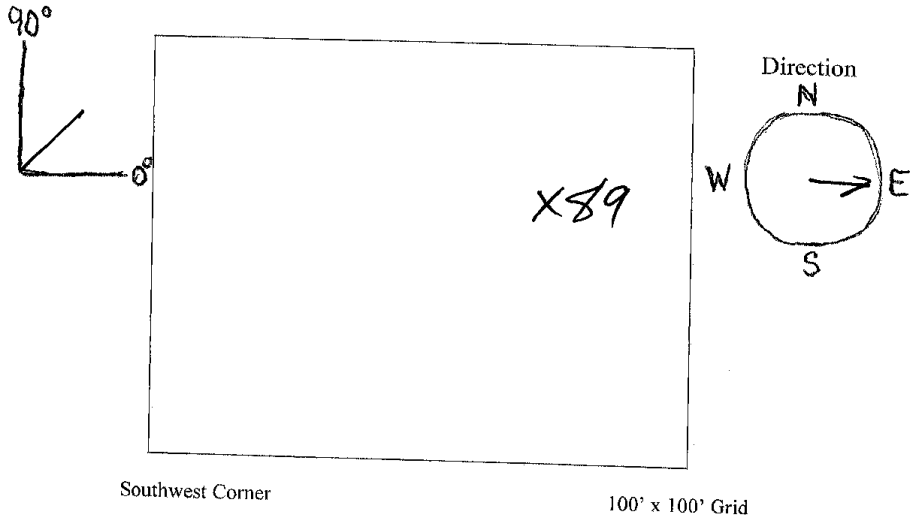
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / DDB / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area ~~DP 64~~	Grid # D02	Flag # 90	Date 6/18/04

Team 1 / Team 2

Photo: D02 – 090

Item Description: Steel Pipe 1½" x 12

Condition:

Depth: 10"

GPS Coordinates:

Y: 3637198

X: 399748.3

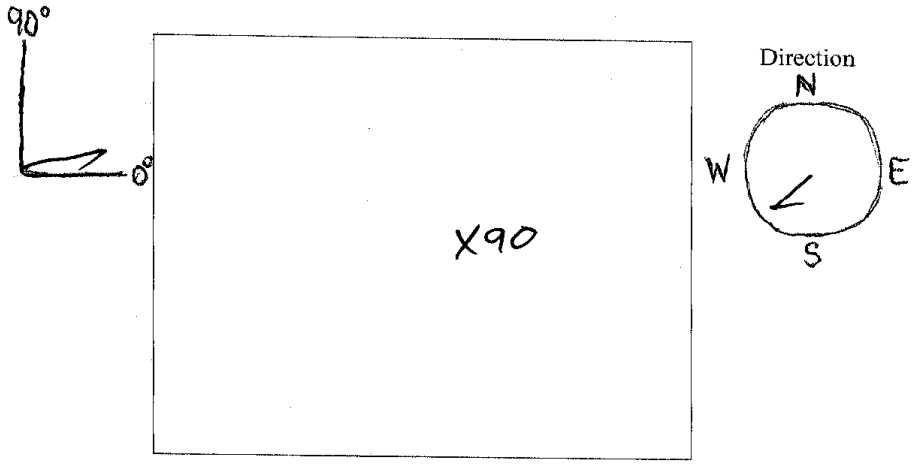
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	~~1~~
Anomalies Detected	X		1

Passed Inspection: Yes / [illegible]

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature [illegible]

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D01	Flag # 91	Date 6/18/04

Team 1 / Team 2

Photo: D01-091

Item Description: Rebar 1/2" x 16"

Condition:

Depth: 3"

GPS Coordinates:

Y: 3637200

X: 399734.9

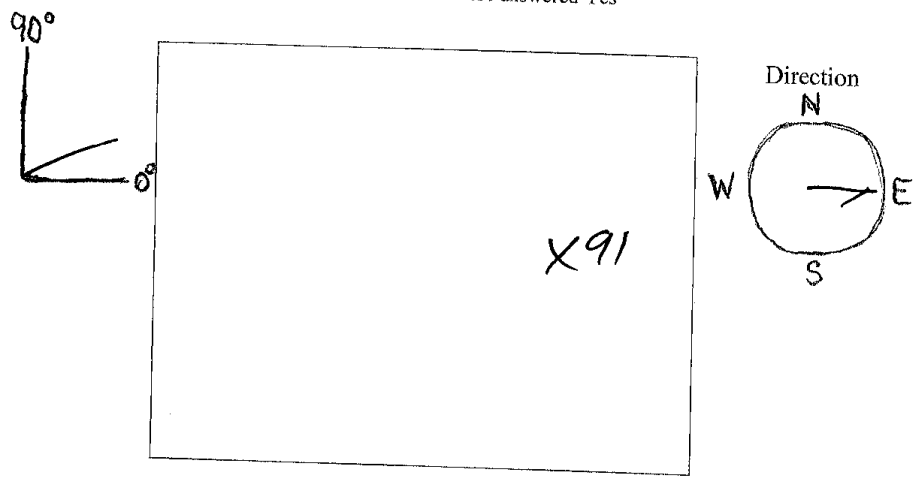
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes /AB /BCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D01	Flag # 92	Date 6/18/04

Team 1 / Team 2

Photo: DO-092

Item Description: 1½" Steel Pipe 10"

Condition:

Depth: 6"

GPS Coordinates:

Y: 3637203

X: 399736.1

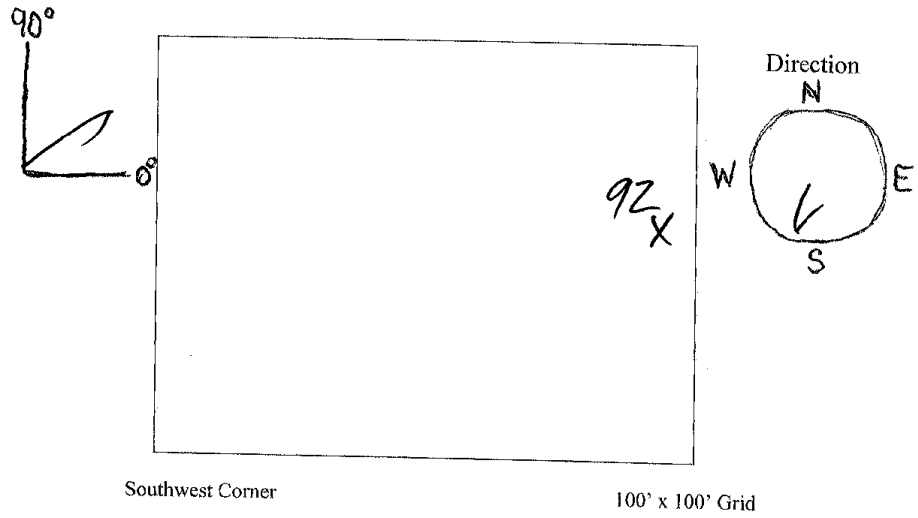
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		

Passed Inspection: Yes / DDB / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D04	Flag # 93	Date 6/17/04

Team 1 / Team 2

Photo: D04-093

Item Description: Pan 18" x 2½"

Condition:

Depth: 6"

GPS Coordinates:

Y: 3637203

X: 399814

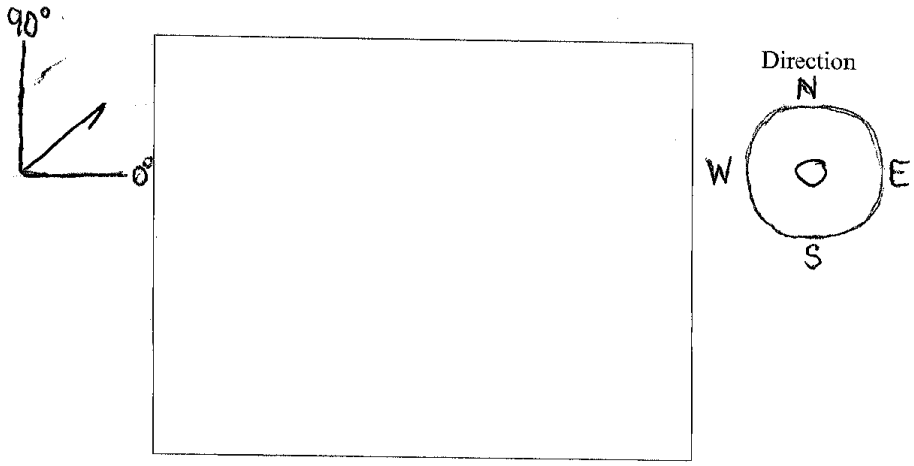
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes/~~No~~/RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D01	Flag # 94	Date 6/18/04

Team 1 / Team 2

Photo: D01-094

Item Description: Steel Pipe 2 1/2' x 1"

Condition:

Depth: 18"

GPS Coordinates:

Y: 3637204

X: 399731.3

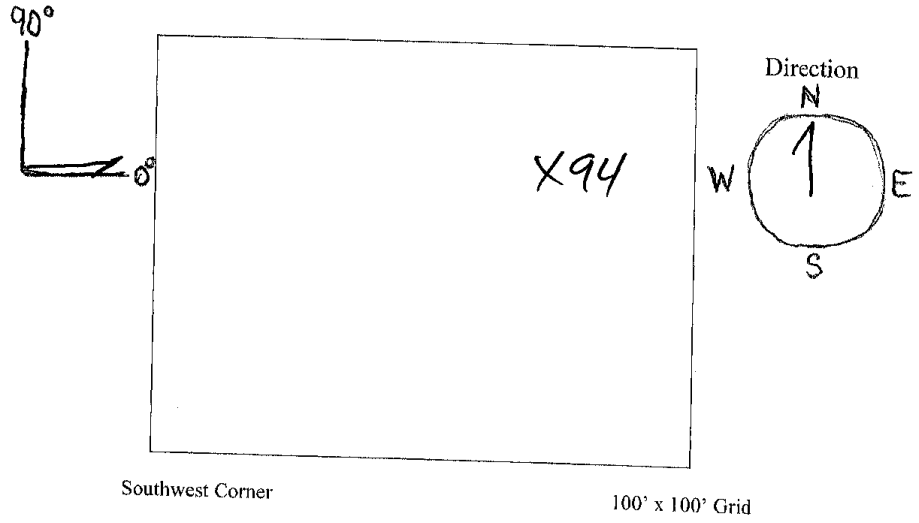
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / DDB / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D#1	Flag # 95	Date 6/18/04

Team 1 / Team 2

Photo: D01-095

Item Description: Steel Pipe 4"x3" Lineman pliers

Condition:

Depth: 6"

GPS Coordinates:

Y: 3637207

X: 399734.5

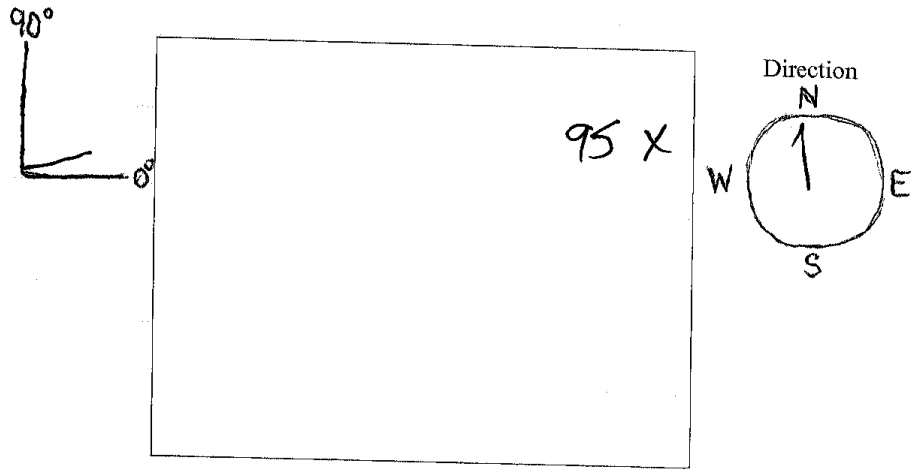
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		2

Passed Inspection: Yes/DDS/RKB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # 062	Flag # 96	Date 6/18/04

Team 1 / Team 2

Photo: D02096

Item Description: Drain Cap 4" Dia 1/2"

Condition:

Depth: 4"

GPS Coordinates:

Y: 3637210

X: 399738.7

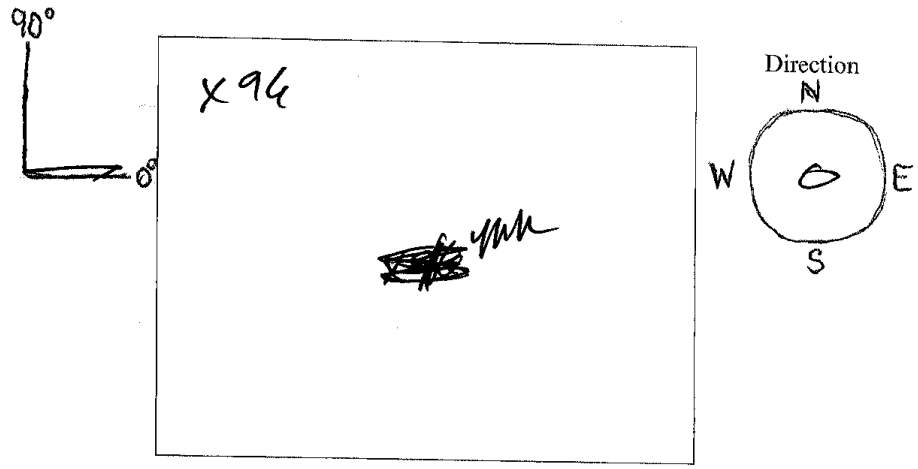
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / N/A

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D02	Flag # 97	Date 6/18/04

Team 1 / Team 2

Photo: D02-097

Item Description: Steel Pipe 4"x1"

Condition:

Depth: 24"

GPS Coordinates:

Y: 3637208

X: 399740.3

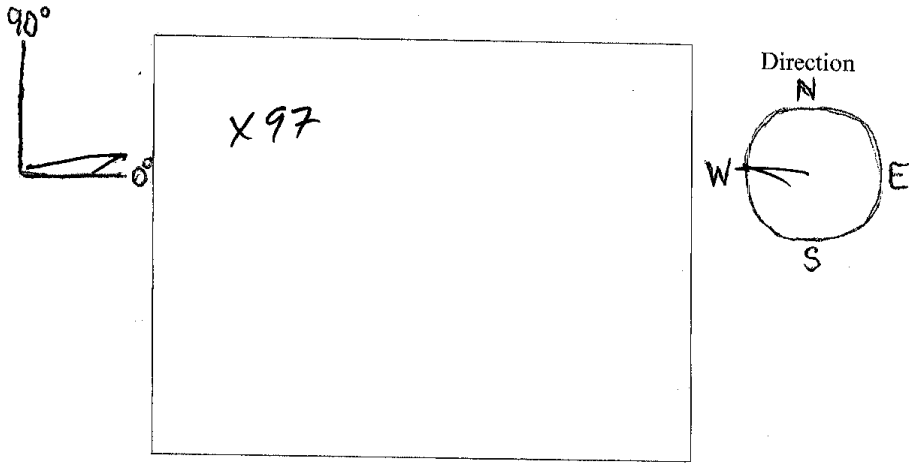
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / Bob / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP-64	Grid # 001	Flag # 98	Date 6/18/04

Team 1 / Team 2

Photo: D01-98

Item Description: Wire 6"

Condition:

Depth: 3"

GPS Coordinates:

Y: 3637209

X: 399724.3

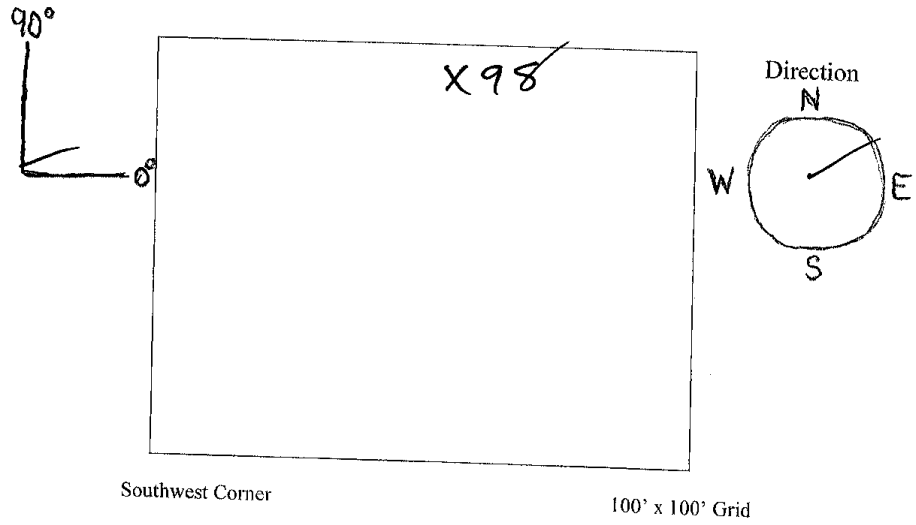
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / Abs / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E03	Flag # 99	Date 07/07/04

Team 1 / Team 2

Photo: E03-099 -

Item Description: 1'x3" Metal

Condition: PARTS OF CAN

Depth: 6"-8"

GPS Coordinates:

Y: 3637214

X: 399775.9

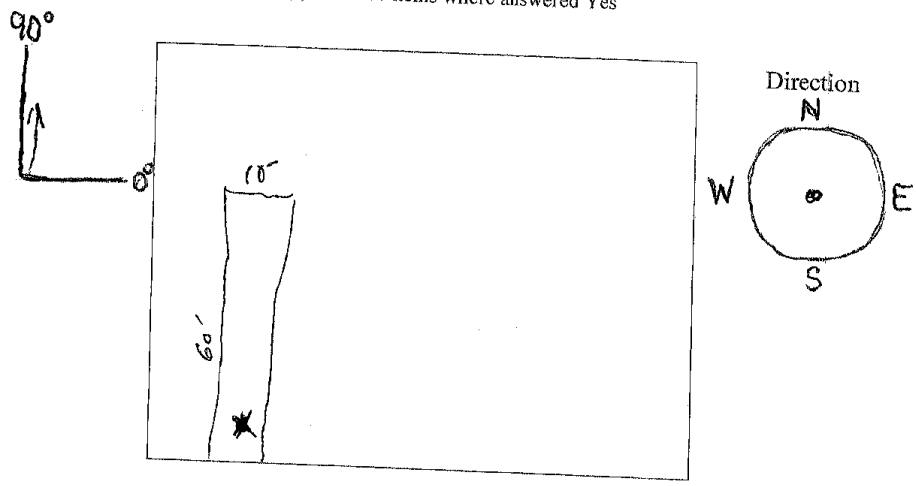
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		

Passed Inspection: Yes / SDB

Remarks:
TOTAL 10 Ampoules
From this location.
(CWM MATERIAL)

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E01	Flag # 100	Date 6/18/04

Team 1 / Team 2

Photo: E01-100

Item Description: Rebar

Condition: 3/4" x 14" 6' Copper wire

Depth: 3"

GPS Coordinates:

Y: 3637216

X: 399737.3

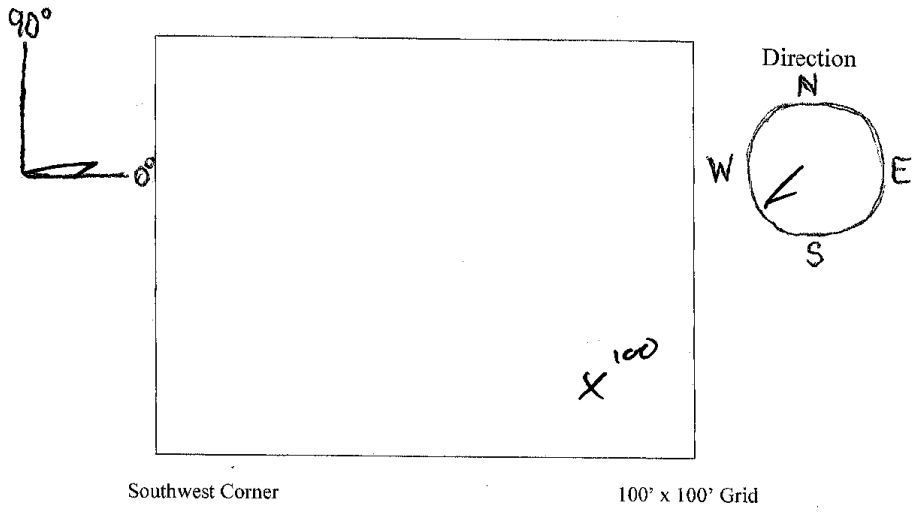
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		2

Passed Inspection: Yes / ADB / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E02	Flag # 102	Date 6/22/04

Team 1 / Team 2

Photo: E02 102

Item Description: Barbed Wire

Condition: 5' ~~[illegible]~~

Depth: 18"

GPS Coordinates:

Y: 3637219

X: 399739.3

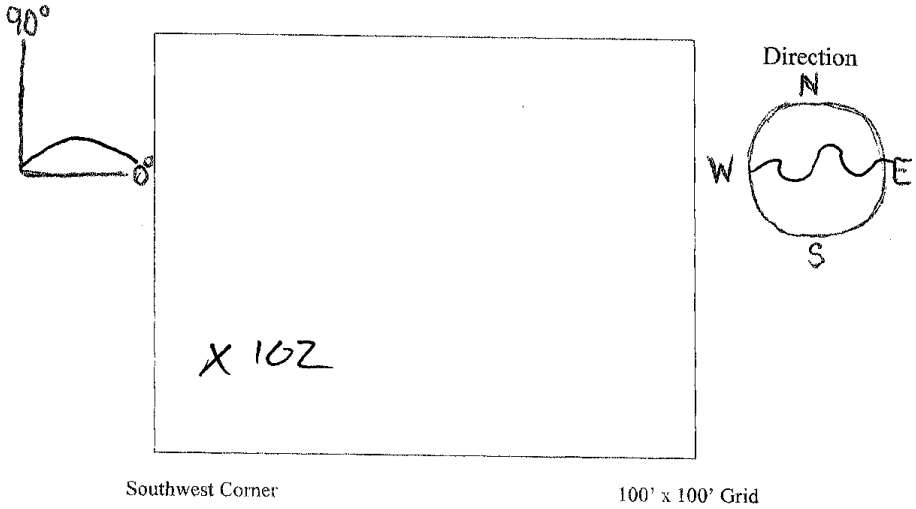
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~[illegible]~~ / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # 103	Flag # 103	Date 6/23/04

Team 1 / Team 2

Photo:

Item Description: 426 inert
2-Full / 5 Partial

Condition: Full-up

Depth: 6

GPS Coordinates:

Y: 3637222

X: 399781.7

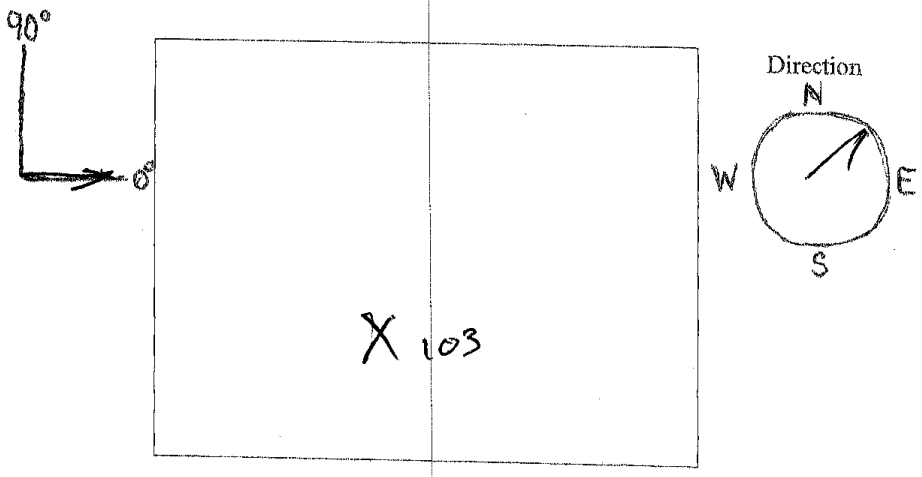
Quality Control Results

Item	Yes	No	Qty
OEW Encountered	X		7
Anomalies Detected	X		

Passed Inspection: Yes/ [illegible] / [illegible]

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature [illegible]

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E02	Flag # 104	Date 6/22/04

Team 1 (Team 2)

Photo: E02-104

Item Description: Burn Pit Debris

Condition:

Depth: Surface - 18"

GPS Coordinates:

Y: 3637226

X: 399760.3

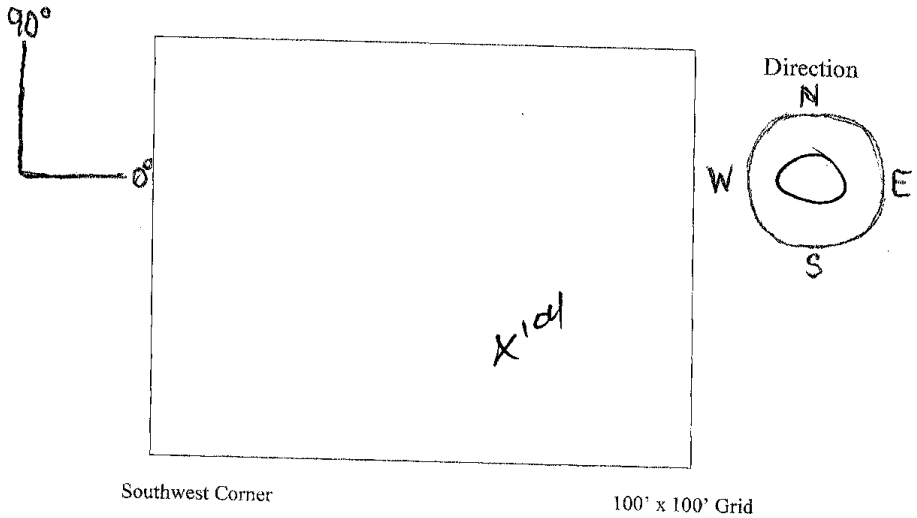
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		4

Passed Inspection: Yes/~~No~~/PKB

Remarks: SLAG Pieces 4X4, 1X6, ~~[illegible]~~ 1X3 12X10"

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E02	Flag # 105	Date 6/22/04

Team 1 / Team 2

Photo: E02-105

Item Description: Burn pit Debris 1/2 x 3 x 2 3 Lbs

Condition:

Depth: 2"

GPS Coordinates:

Y: 3637226

X: 399762.5

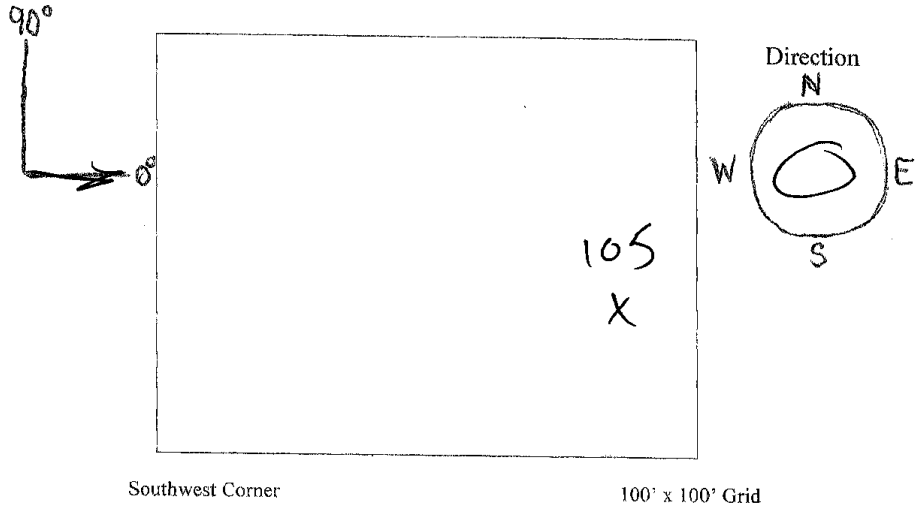
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		3

Passed Inspection: Yes / ~~No~~ / RLB

Remarks: Burn Debris multiple small pieces

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E01	Flag # 106	Date 6/18/04

Team 1 / Team 2

Photo: E01-106

Item Description: Alum. Pie plate 8" x 1 1/2

Condition:

Depth: 1

GPS Coordinates:

Y: 3637228

X: 399717.9

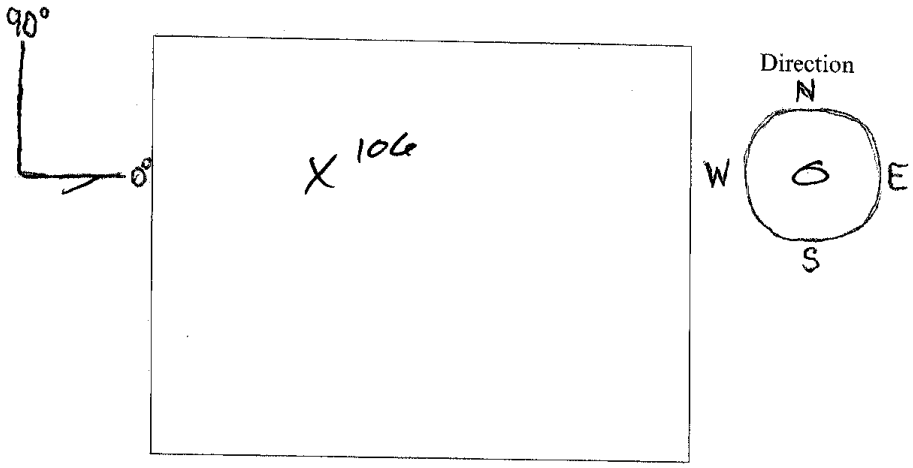
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / AOB / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # 204	Flag # 107	Date 6-23-04

Team 1 / Team 2

Photo: 204-107

Item Description: Barrell ring 3ft long

Condition:

Depth: 8 inch

GPS Coordinates:

Y: 3637230

X: 399808.4

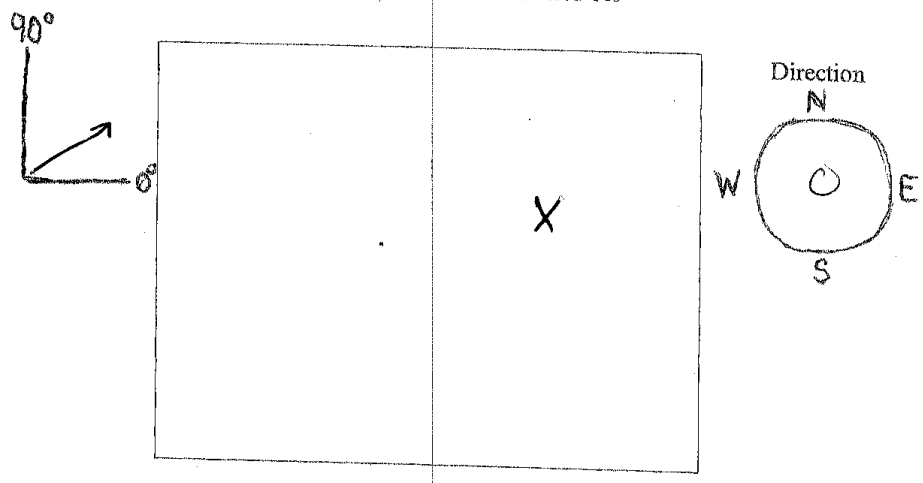
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		1

Passed Inspection: Yes / AOR / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E02	Flag # 108	Date 6/22/04

Team 1 / Team 2

Photo: E02-108

Item Description: Base from 4lb incend. Bomblet M69

Condition:

Depth: 1"

GPS Coordinates:

Y: 3637230

X: 399743.1

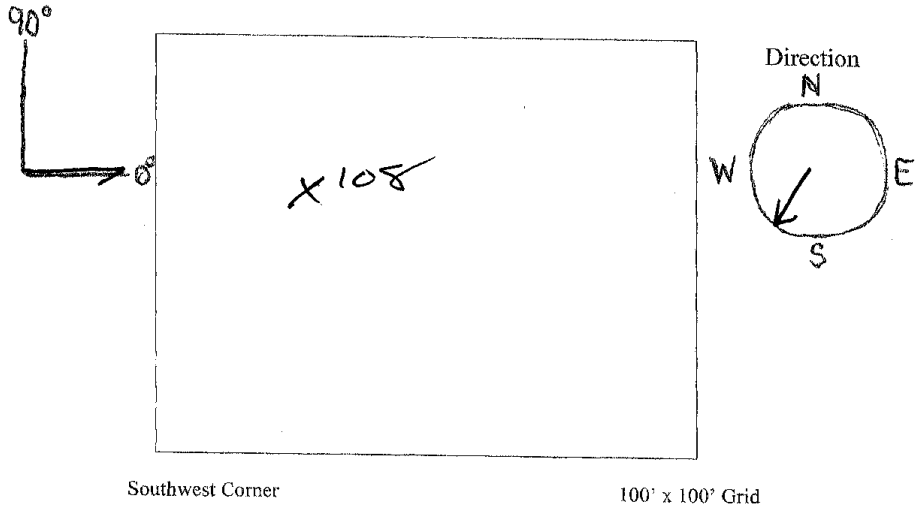
Quality Control Results

Item	Yes	No	Qty
OEW Encountered	X		
Anomalies Detected	X		1

Passed Inspection: AB/RES/RCB

Remarks:
octagon shape
2½" X 3½" - 2" thick
1 LB

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E03	Flag # 109	Date 6-23-04

Team (1) / Team 2

Photo: E03-109

Item Description: Bomlet bases (Burn Pit) & Slag

Condition: 1" to 4" diameter

Depth: 14 inches

GPS Coordinates:

Y: 3637233

X: 399796

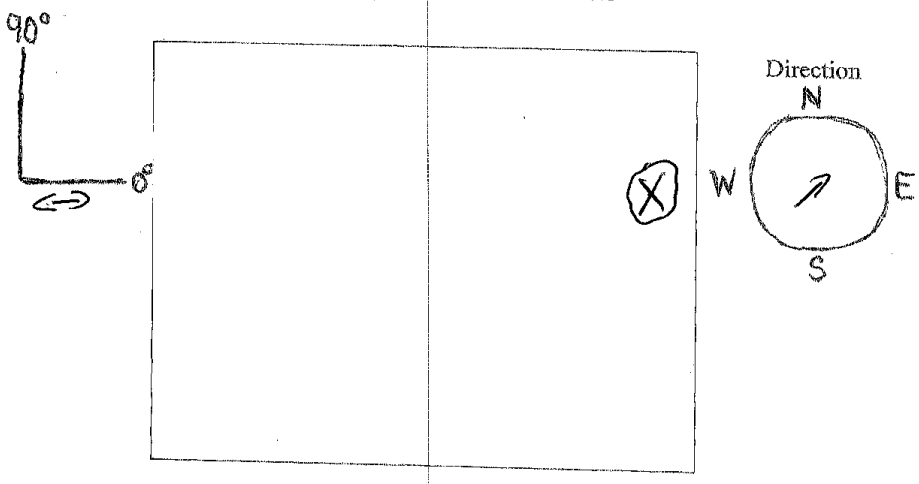
Quality Control Results

Item	Yes	No	Qty
OEW Encountered	✓		15+
Anomalies Detected	✓		

Passed Inspection: Yes / dos / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E04	Flag # 110	Date 4-23-04

Team D / Team 2

Photo: E04-110

Item Description: Part of metal Barrell 2ft x 1.5

Condition: Rusted Broken

Depth: 8 inch

GPS Coordinates:

Y: 3637237

X: 399798.6

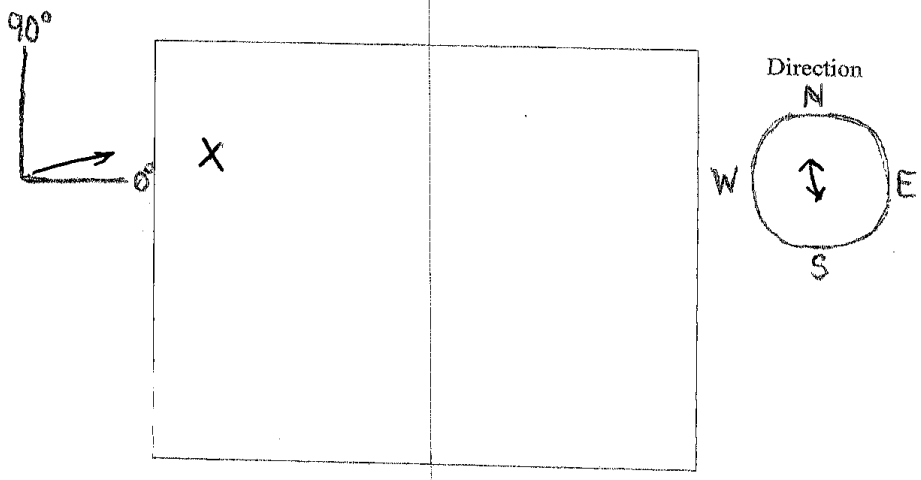
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		1

Passed Inspection: Yes / Yes / YES

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E04	Flag # 111	Date 6-23-04

Team 1 / Team 2

Photo: E04 - 111

Item Description: Rusted metal Barrell parts 5 inch diameter to 1 inch diameter

Condition:

Depth: 10 inches

GPS Coordinates:

Y: 3637235

X: 399798

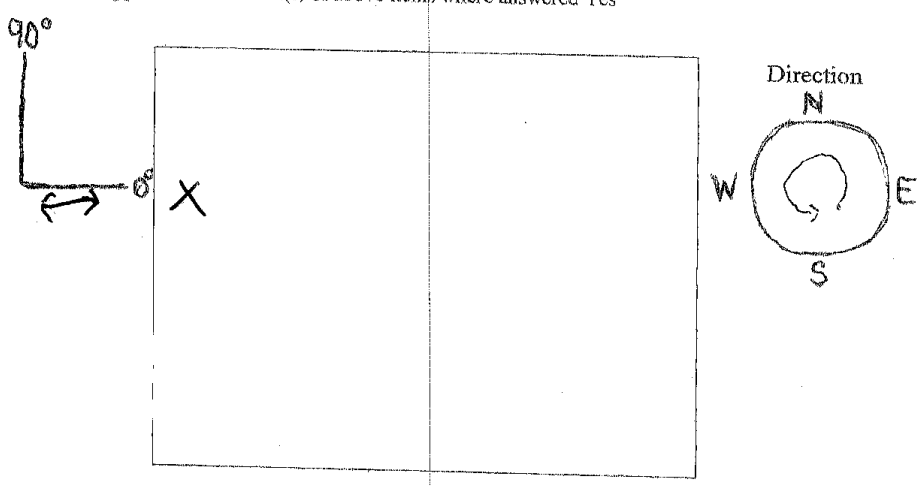
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		20+

Passed Inspection: Yes / [illegible] / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature [illegible]

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E02	Flag # 112	Date 6/22/04

Team 1 / Team 2

Photo: E02-112

Item Description: Burn pit Debris

Condition: 4 Lbs. Metal strap 1/2 x 4 x 1/16

Depth: 4" 3 MD1 (4)

GPS Coordinates:

Y: 3637235

X: 399765.5

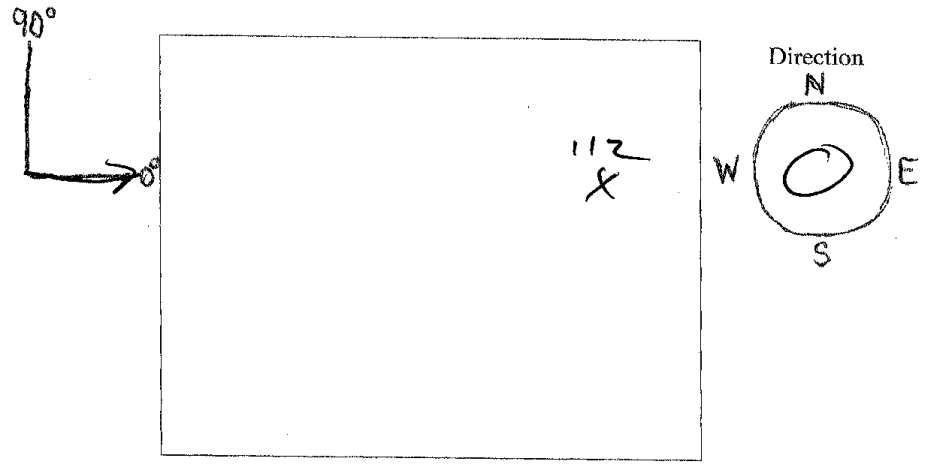
Quality Control Results

Item	Yes	No	Qty
OEW Encountered	✓		
Anomalies Detected	X		3

Passed Inspection: Yes / [illegible] / RLB

Remarks: (3) M69 Basis 2 STRAP bundles

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E03	Flag # 113	Date 6-22-04

Team (1) / Team 2

Photo: E03-113

Item Description: steele plate 3x5in

Condition: Rusted

Depth: 2 in

GPS Coordinates:

Y: 3637238

X: 399771.5

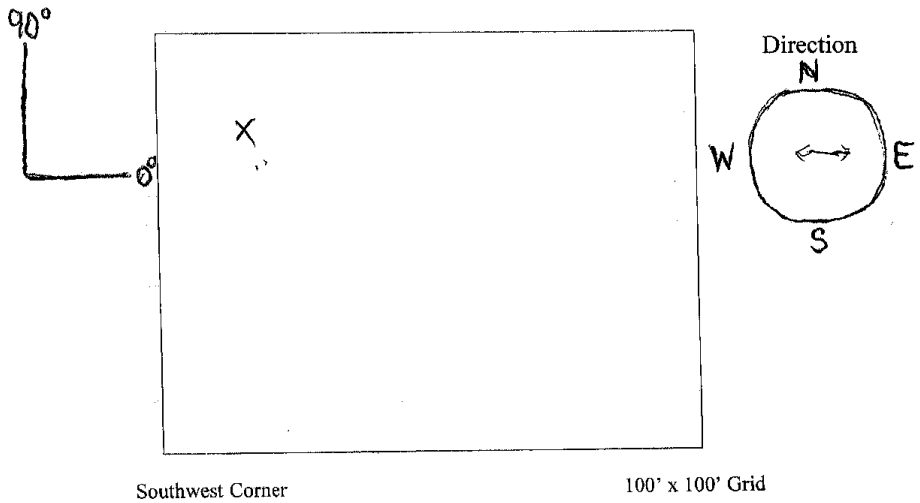
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		1

Passed Inspection: Yes / Jbs / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E03	Flag # 114	Date 6-22-06

Team 1 / Team 2

Photo: E03-114

Item Description: Bomblet base only

Condition: OE Scrap (No filler)

Depth: 4"

GPS Coordinates:

Y: 3637240

X: 399771.5

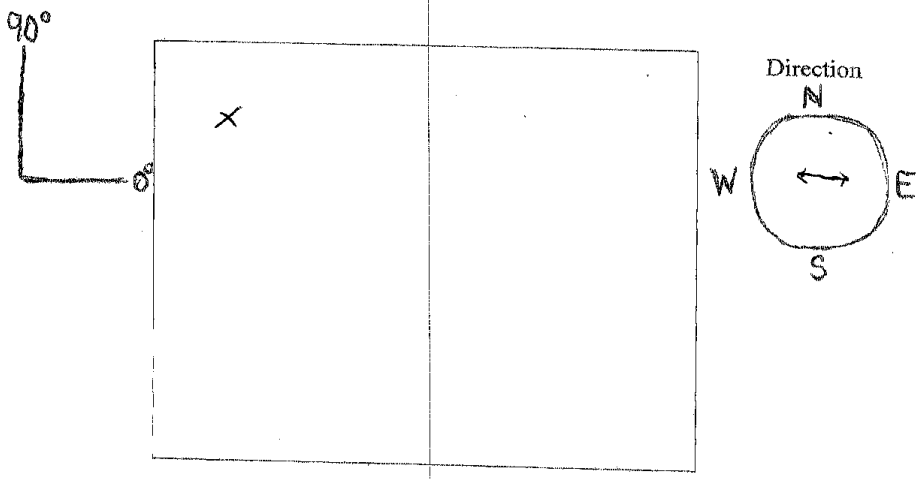
Quality Control Results

Item	Yes	No	Qty
OEW Encountered	✓		1
Anomalies Detected	✓		

Passed Inspection: Yes / DMS / RKB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F01	Flag # 116	Date 6/22/04

Team 1 / Team 2

Photo: F01-116

Item Description: Steel Strap Nails 1/16 x 1" x 12

Condition:

Depth: 10"

GPS Coordinates:

Y: 3637242

X: 399729.7

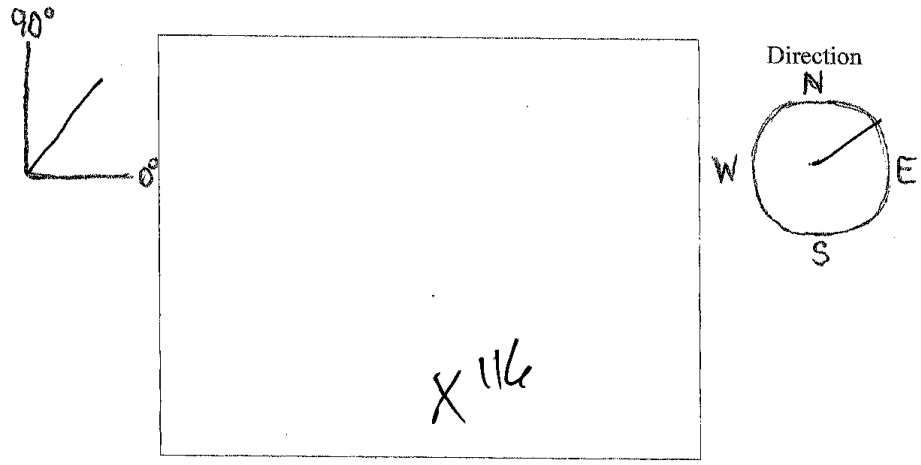
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / [illegible] / RCB

Remarks: NAILS Attached to STRAP

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature [illegible]

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F03	Flag # 117	Date 6-22-04

Team 1 / Team 2

Photo: F03-117

Item Description: slag

Condition:

Depth: ~~3 feet~~ – 4 inch

GPS Coordinates:

Y: 3637245

X: 399791

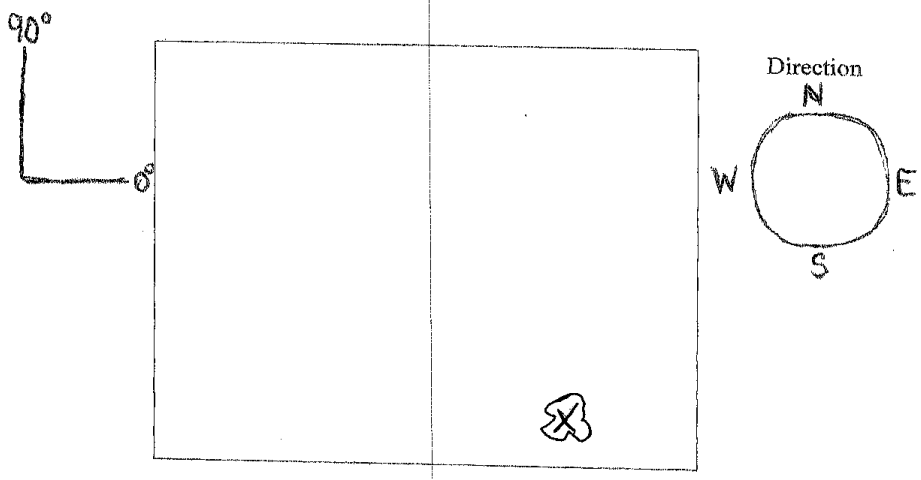
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		1

Passed Inspection: Yes / ~~No~~ / RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F03	Flag # 118	Date 6-22-04

Team 1 / Team 2

Photo: F03-118

Item Description: Multiple - Slag/scrap

Condition: IX3

Depth: 2 inches

GPS Coordinates:

Y: 3637246

X: 399772.3

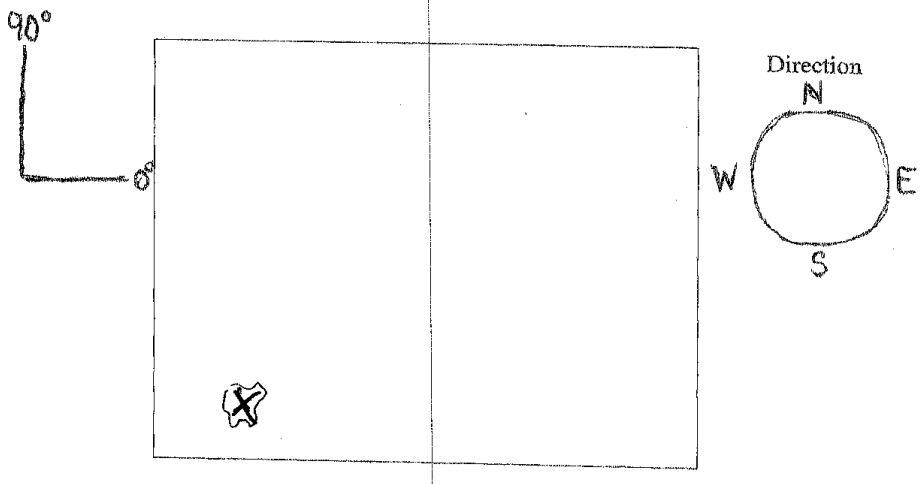
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		3

Passed Inspection: Yes/AOS/RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F01	Flag # 120	Date 6-21-04

Team (1) Team 2

Photo: F01-120

Item Description: Unknown Initiators w/ Banding *

Condition:

Depth: 8"

GPS Coordinates:

Y: 3637248

X: 399729.3

Quality Control Results

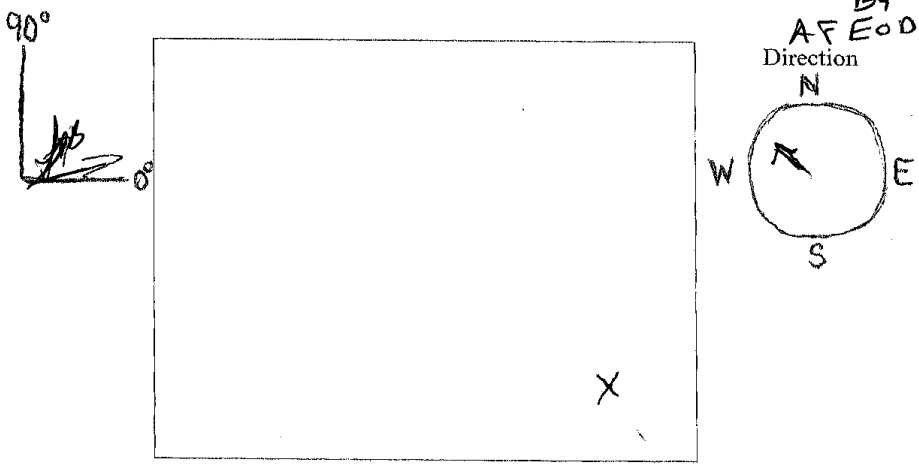
Item	Yes	No	Qty
OEW Encountered	✓		
Anomalies Detected	✓		7

Passed Inspection: Yes/~~No~~/RB

Remarks: Initiators ½" x 2" Each w/ Clamp Attached
TOTAL Weight 2 LBS

Draw the approximate location(s) of above items where answered Yes

Removed By AF EOD



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

* M3 NAPALM GRENADE INIATOR
HOLLOMAN AFB EOD Identified

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F03	Flag # 121	Date 6-22-04

Team D/ Team 2

Photo: F03-121

Item Description: Buckles / Buttons 2½ x 1¼

Condition:

Depth: 1 inch - 2

GPS Coordinates:

Y: 3637248

X: 399794.2

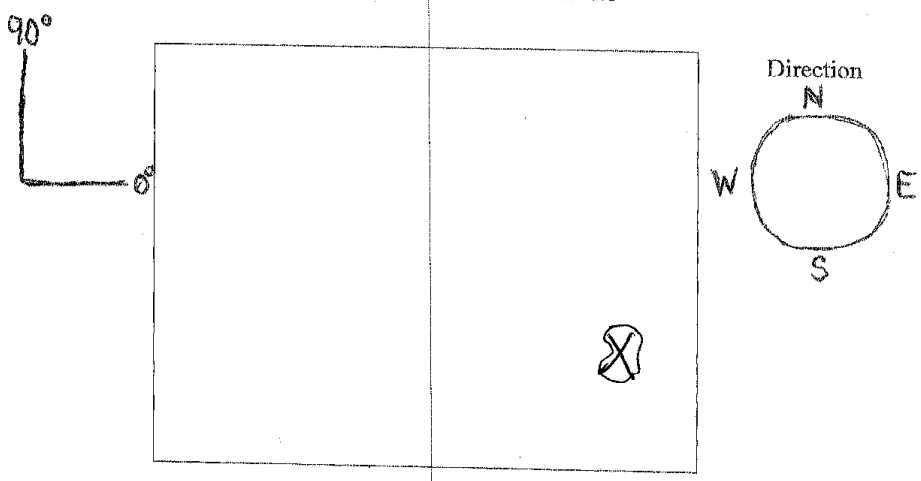
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		6

Passed Inspection: Yes/~~No~~/ PKB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F02	Flag # 122	Date 6/22/04

Team 1 Team 2 (circled)

Photo: F02-122

Item Description: Metal 1"x 2"x3"

Condition:

Depth: 2"

GPS Coordinates:

Y: 3637249

X: 399764.9

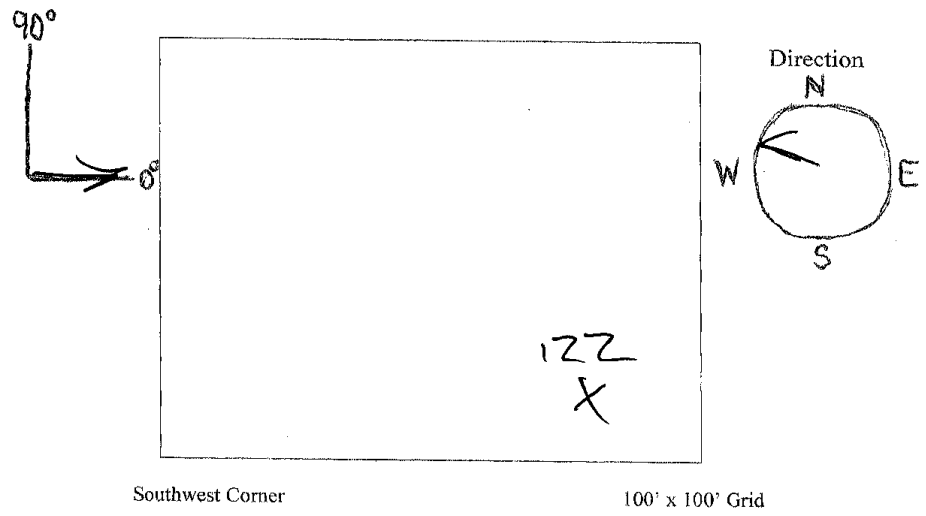
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / ~~No~~ / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F02	Flag # 123	Date 6/22/04

Team 1 / Team 2

Photo: F02-123

Item Description: Fence Post 1x8"

Condition:

Depth: 3"

GPS Coordinates:

Y: 3637252

X: 399757.9

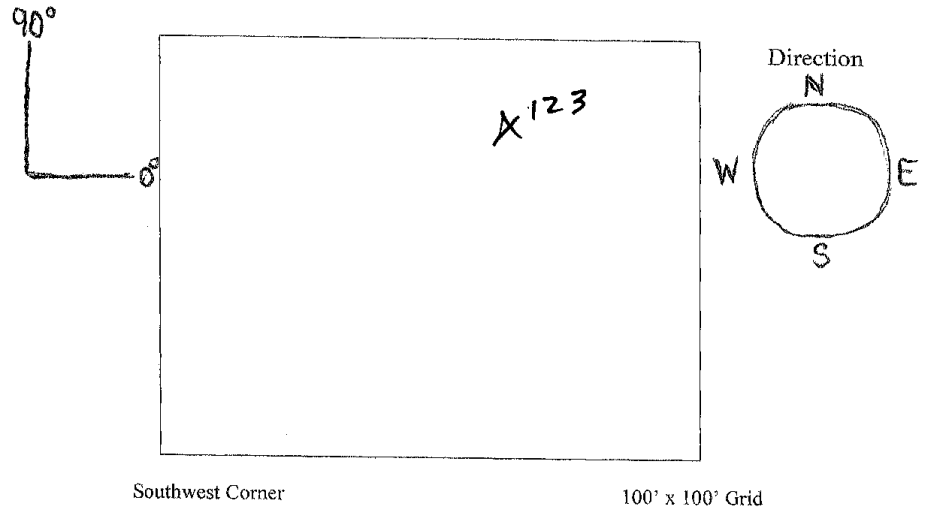
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		

Passed Inspection: Yes / Ans / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F03	Flag # 124	Date 6-22-04

Team D / Team 2

Photo: F03-124

Item Description: Wire (2 strands) 16" length

Condition:

Depth: 2 inches

GPS Coordinates:

Y: 3637252

X: 399775.5

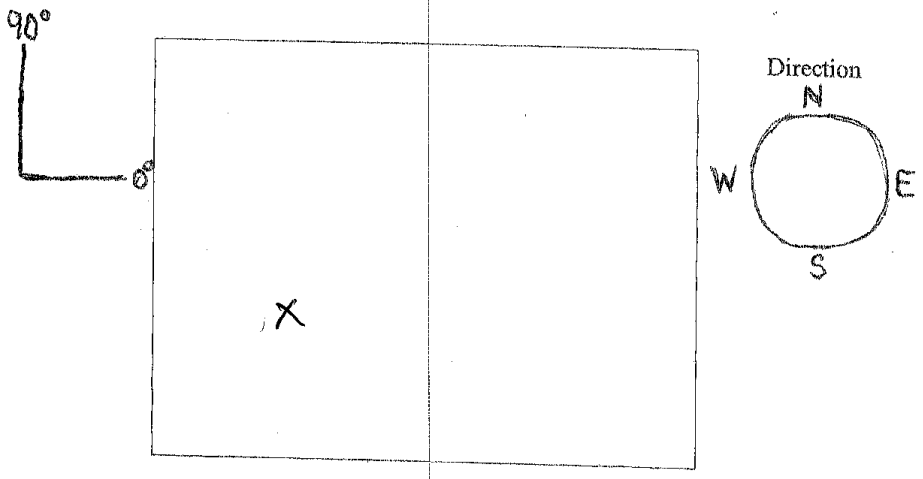
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		

Passed Inspection: Yes / Yes / RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F02	Flag # 125	Date 6/22/04

Team 1 Team 2

Photo: F02-125

Item Description: ~~Sheet~~ Steel 1" x 2" x 2"

Condition:

Depth: 1"

GPS Coordinates:

Y: 3637254

X: 399743.9

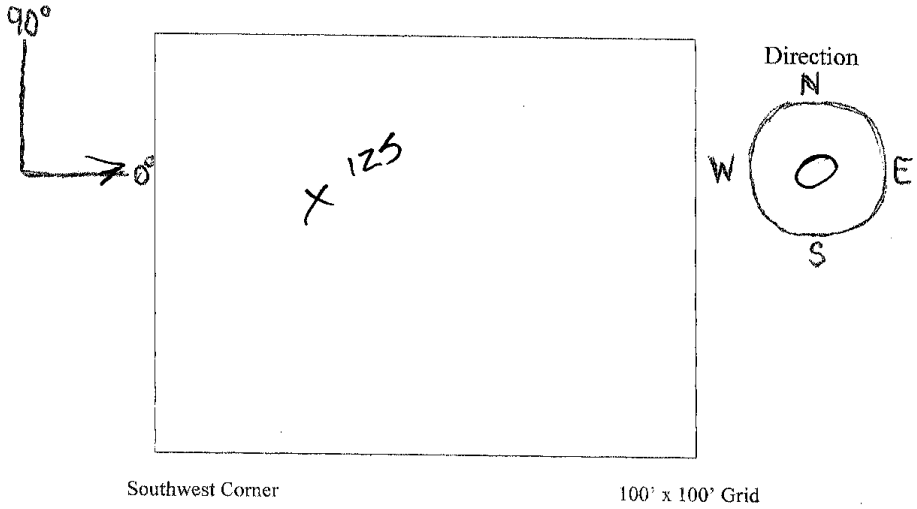
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		

Passed Inspection: Yes/Mos/RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # F02	Flag # 126	Date 6/22/04

Team 1 / Team 2

Photo: F02-126

Item Description: metal pieces 1/2 x 1" x 2"

Condition:

Depth: 6"

GPS Coordinates:

Y: 3637253

X: 399741.3

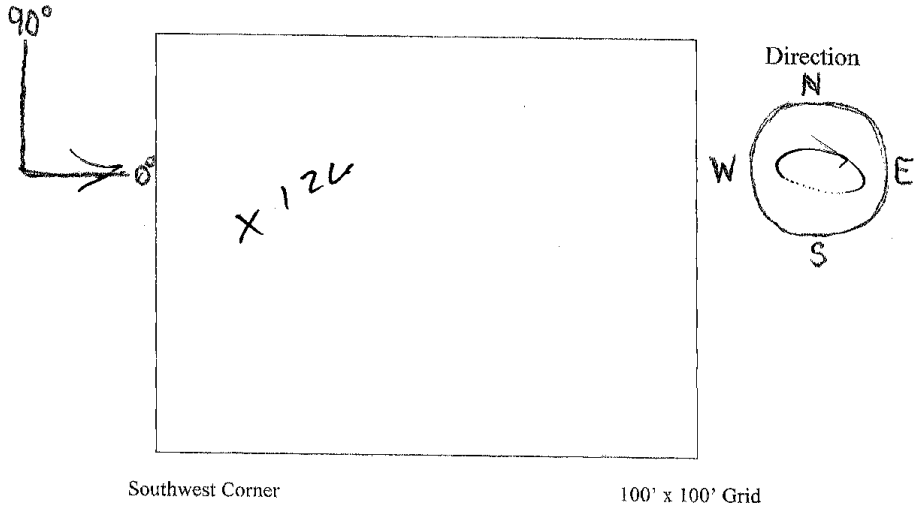
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		

Passed Inspection: Yes/ Yes/ RLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E03	Flag # 136	Date 6-23-04

Team 1 / Team 2

Photo: E03-134

Item Description: Metal slag 5" x 2" 1/2 Thick

Condition:

Depth: 2 inches

GPS Coordinates:

Y: 3637231

X: 399789.7

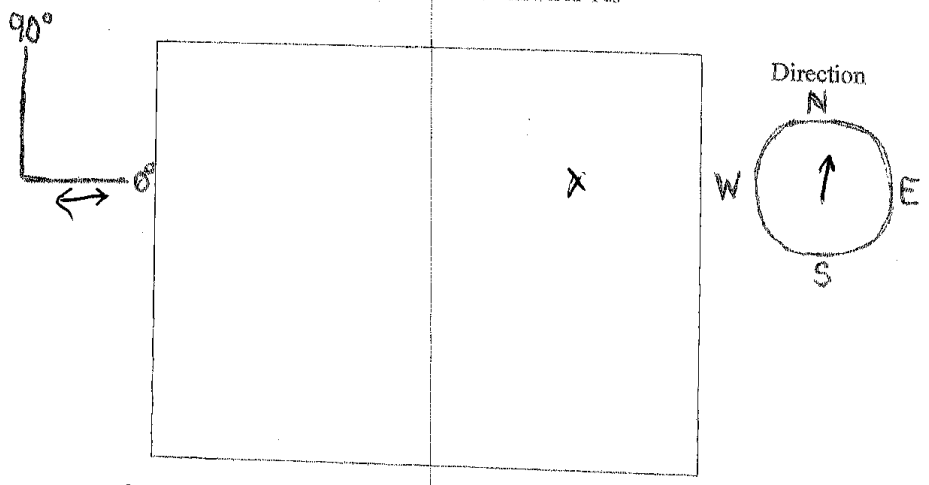
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		1

Passed Inspection: Yes / [illegible] / RTB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature [illegible]

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E03	Flag # 137	Date 6/23/04

Team 1 / Team 2

Photo: E03-137

Item Description: Burn Pit approx 150 lb. locen. Bases

Condition:

Depth: 1"-24"

GPS Coordinates:

Y: 3637227

X: 399784.1

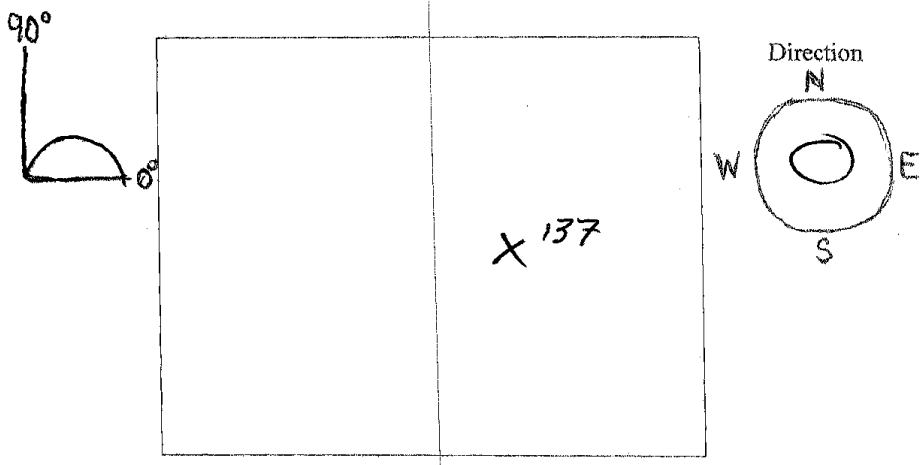
Quality Control Results

Item	Yes	No	Qty
OEW Encountered	X		150
Anomalies Detected	X		

Passed Inspection: Yes/ AB/ RCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner 100' x 100' Grid

QC Officer: Steven D. Burhans Signature

ZAPATA ENGINEERING — **DIG Sheet Record**

Work Area DP 64	Grid # E03	Flag # 138	Date 6-23-04

Team (1) / Team 2

Photo: E03-138

Item Description: Nails 1 inch long to 1 1/2 long MRE Wrapper

Condition:

Depth: 2 ~~inches~~ Feet

GPS Coordinates:

Y: 3637228

X: 399786.7

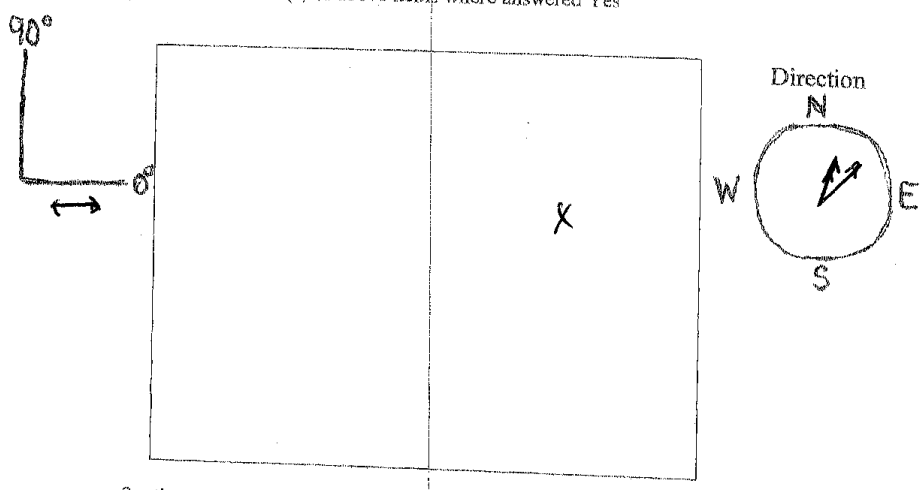
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected	✓		3

Passed Inspection: Yes / Yes / RB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E04	Flag # 139	Date 6-23-04

Team 1 / Team 2

Photo: E04-139

Item Description: Nothing encountered

Condition:

Depth: Dug to 36"

GPS Coordinates:

Y: 3637215

X: 399799.1

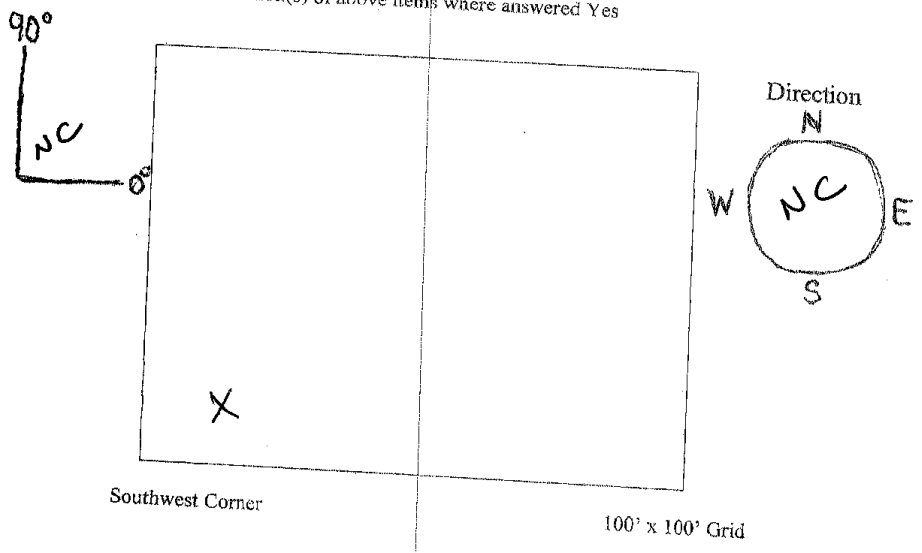
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		✓	
Anomalies Detected		✓	

Passed Inspection: Yes / DDS / RKB

Remarks: 4.1 MV - Dug to 36"x36"

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D02	Flag # 140	Date 6/18/04

Team 1 / Team 2

Photo: D02-140

Item Description: Hose Clamp 1"x 1/2"x 1/2"

Condition:

Depth: 2"

GPS Coordinates:

Y: 3637207

X: 399756.5

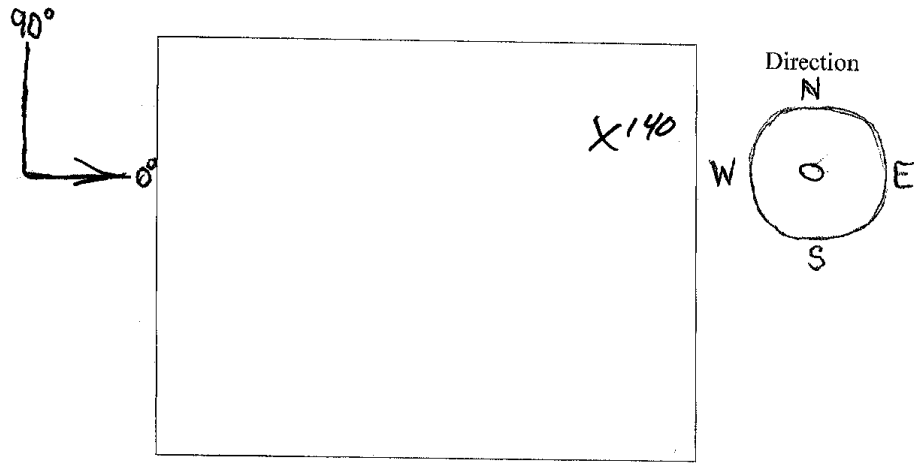
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes 6/18/04 BLB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATAENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # D02	Flag # 141	Date 6/18/04

Team 1 / Team 2

Photo: D02 #141

Item Description: Valvestem

Condition: 1/4 x 6"

Depth: 2"

GPS Coordinates:

Y: 3637208

X: 399755.5

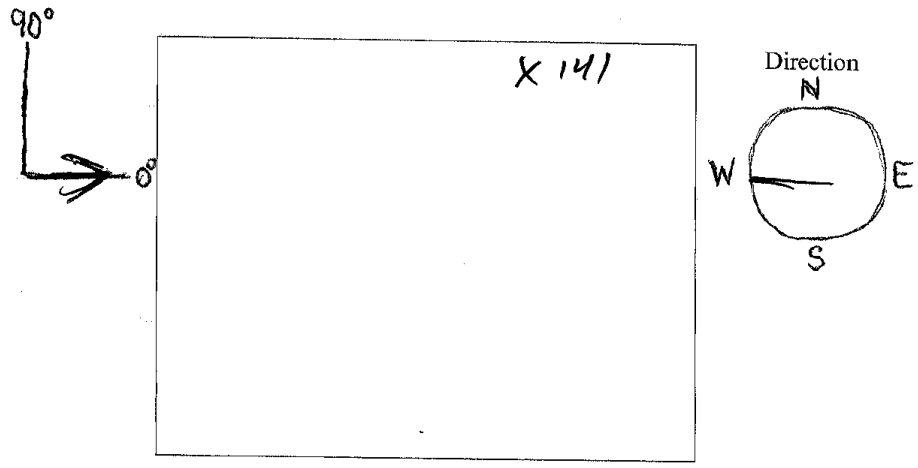
Quality Control Results

Item	Yes	No	Qty
OEW Encountered		X	
Anomalies Detected	X		1

Passed Inspection: Yes / DB / BCB

Remarks:

Draw the approximate location(s) of above items where answered Yes



Southwest Corner

100' x 100' Grid

QC Officer: Steven D. Burhans

Signature

ZAPATA ENGINEERING **DIG Sheet Record**

Work Area DP 64	Grid # E02	Flag # 142	Date 6/22/04

Team 1 / Team 2

Photo: E02-142

Item Description: Base 4.6 inches M69

Condition:

Depth: 4"

GPS Coordinates:

Y: 3637239

X: 399766.1

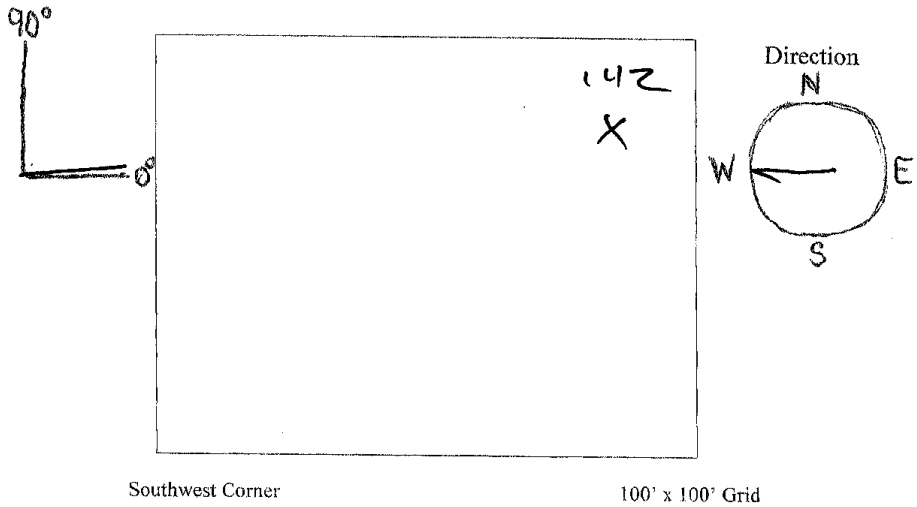
Quality Control Results

Item	Yes	No	Qty
OEW Encountered	X		
Anomalies Detected	X		1

Passed Inspection: Yes / AM / RLB

Remarks:
2½ X 2½ octagon shape
2" thick
1 Lb

Draw the approximate location(s) of above items where answered Yes



QC Officer: Steven D. Burhans | Signature

FINAL

SITE SPECIFIC FINAL REPORT

FOR

ORDNANCE AND EXPLOSIVE REMOVAL ACTION

AT

HOLLOMAN AIR FORCE BASE
NEW MEXICO

Contract: DACA87-00-D-0034
Task Order: 0019

Prepared for:

US Army Engineering and Support Center, Huntsville

by:

ZAPATA ENGINEERING
TRUST • INTEGRITY • QUALITY
6302 Fairview Road, Suite 600
Charlotte, NC 28210

June 2005
Volume II of II

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APPENDIX F
SCRAP MANAGEMENT FORMS

DD FORM 1348-1A, JUL 91 (EG) ISSUE RELEASE/RECEIPT DOCUMENT

1. TOTAL PRICE	
2. SHIP FROM	
3. SHIP TO	
4. MARK FOR	
5. DOC DATE	20 Jul 04
6. NMFC	
7. FRT RATE	
8. TYPE CARGO	
9. PS	
10. QTY. REC'D	2
11. UP	
12. UNIT WEIGHT	50
13. UNIT CUBE	
14. UFC	
15. SL	
16. FREIGHT CLASSIFICATION NOMENCLATURE	
17. ITEM NOMENCLATURE	OE Scrap (Mixed metals)
18. TY CONT	5 gal
19. NO CONT	2
20. TOTAL WEIGHT	100 lbs
21. TOTAL CUBE	
22. RECEIVED BY	David Scruggs, Holloman AFB
23. DATE RECEIVED	7/22/04

24. DOCUMENT NUMBER & SUFFIX (30-44)

25. NATIONAL STOCK NO. & ADD (6-22)

26. RIC (4-6) UI (23-24) QTY (25-29) CONST CODE (71) DISP (72-73) UP (74-80)

2ea 5 gallon buckets containing 50 lbs ea. of OE Scrap metal with the following seals Bucket 1 seals 0041184, 0041185, 0041186
Bucket 2 seals 0041187, 0041188, 0041190

27. ADDITIONAL DATA

This certifies that the material listed has been 100 percent properly inspected and, to the best of our knowledge and belief, are free of explosive hazards, engine fluids, illuminating dials and other visible liquid HTRW materials

Chris E. Brown
Senior UXO Supervisor
ZAPATA Engineering
(704) 358-8240
Holloman AFB DP-64
(505) 479-4094

Richard L. Byrd
USAESCH OE Safety Specialist
(256) 426-0654
Holloman AFB DP-64
(505) 479-4138

PREVIOUS EDITION MAY BE USED

PerFORM (DLA)

WE CERTIFY AND VERIFY THAT THE AEDA RESIDUE, RANGE RESIDUE AND/OR EXPLOSIVE CONTAMINATED PROPERTY HERE-IN HAS BEEN 100% PROPERLY INSPECTED BY US AND TO THE BST OF OUR KNOWLEDGE AND BELIEF, ARE INERT AND/OR FREE OF EXPLOSIVES OR OTHER DANGEROUS MATERIALS

22 JUL 04 — CERTIFIER SIGNATURE DATE
CHRIS E. BROWN
SENIOR UXO SUPERVISOR
ZAPATA ENGINEERING
(704) 358-8240

22 JUL 04 — CERTIFIER SIGNATURE DATE
RICHARD L. BYRD
USAESCH OE SAFETY SPECIALIST
(256) 426-0654

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
P.O. Box 13087
Austin, Texas 78711-3087

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

Form approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. N M 0 5 7 2 1 2 4 4 0 P — Manifest Document No. 0 0 0 0 8

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
HOLLOMAN AIRFORCE BASE
49TH CES/CEV, 550 TAOSO AVENUE
HOLLOMAN AIRFORCE BASE, NM 88330

4. Generator's Phone (505) 572-5395

A. State Manifest Document Number: 02862213

B. State Generator's ID

5. Transporter 1 Company Name: TRI-STATE MOTOR TRANSIT CO

6. US EPA ID Number: M 0 0 0 0 0 5 0 5 3 4 7

C. State Transporter's ID

D. Transporter's Phone: (800)568-2435

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
ONYX ENVIRONMENTAL SERVICES
HWY 73 3.5 MILES WEST OF TAYLOR BAYOU
PORT ARTHUR, TX 77640

10. US EPA ID Number: T X D 0 0 0 8 3 8 0 9 6

G. State Facility's ID

H. Facility's Phone: (409) 735-2821

11A. HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
X	RQ, WASTE TOXIC, LIQUIDS, ORGANIC, N.O.S., (PHOSGENE, CHLOROFORM/CHLOROPICRIN), 6.1, UN2810, PGIII, ERG#153, #671550	001	DM	00055	G	D002, D022
X	RQ, WASTE TOXIC, LIQUIDS, ORGANIC, N.O.S., (CHLOROFORM), 6.1, UN2810, PGIII, ERG#153, #671550	001	DM	00055	G	D022
	NON DOT/NON RCRA 3X MATERIAL, #671549	001	DM	00001	G	N/A
	d.					

J. Additional Descriptions for Materials Listed Above
A: 671548 B: 671550
C: 671549 D:

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
24 HOUR EMERGENCY CONTACT:DAVID SCRUGGS 505-572-5395

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, packaged, marked, and labelled/placarded, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

GENERATOR

Printed/Typed Name: David Scruggs — Signature — Month 08 Day 04 Year 04

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name: Mr. Morris — Signature — Month 08 Day 04 Year 04

18. Transporter 2 Acknowledgement of Receipt of Materials — Date

Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name — Signature — Month Day Year

TNRCC-0311 (Rev. 07/01/97) White - original Pink-TSD Facility Yellow-Transporter Green-Generator's first copy

2-02-2004 14:10 From-ONYX ENT, + T-537 P.001/001 F-506

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM PHASE IV Page ____ of ____

enerator Name: Holloman Airforce Base EPA ID # NM6572124422 State Manifest No. 028622213

If waste is a wastewater (see 40 CFR 268.2) place "w" next to the applicable code(s) Profile # 671548

CODES WITH SUBCATEGORIES (place appropriate letter from section B before each code that applies) (See 40 CFR 268 for details)

__ D001 Hi-TOC
__ D001 Except Hi-TOC
__ D003 Reactive Cyanide
__ D003 Reactive Sulfide
__ D003 Explosive
__ D003 Water Reactives
__ D003 Unexp Ord. Emg
__ D003 Other Reactives
__ D005 Batteries
__ D008 Lead acid batteries
__ D009 Organic Hg > 260ppm
__ D009 Inorg. Hg > 260
__ D009 Hg < 260
__ F025 Light ends
__ F025 Spent filter
__ K006 Hydrated
__ K006 Anhydrous
__ K069 Calcium Sulfate
__ K069 Not Calcium Sulfate
__ K071 Rmerc Res.
__ K071 Not Rmerc Res.
__ K106 Lo Rmerc Res.
__ K106 Not Rmerc Res.
__ K106 > 260 ppm Hg
__ P047 Salts
__ P047 Nonsalts
__ P065 Lo Inc. Res.
__ P065 Lo RMERC Res.
__ P065 Not Inc./RMERC Res.
__ P065 Hi Inc./RMERC Res.
__ P092 Lo Inc. Res.
__ P092 Lo RMERC Res.
__ P092 Not Inc/RMERC Res.
__ P092 Hi Inc//RMERC Res.
__ U151 Lo RMERC Res.
__ U151 Lo Not RMERC Res.
__ U151 Hi Hg
__ U240 2, 4 D
__ U240 2, 4 esters & Salts

he subcategory for D018-D043 waste is "treated in nonCWA/nonSDWA facility" unless the following box is checked: ☐ "treated in CWA/SDWA facility"

. COMMON CODES (Place appropriate letter from section B before each code that applies)

__ D002 __ D004 __ D020 __ D036 __ U007
__ P012 __ D005 __ D021 __ D037 __ U044
__ P030 __ D006 X D022 __ D038 __ U061
__ P051 __ D007 __ D023 __ D039 __ U072
__ P098 __ D008 __ D024 __ D040 __ U080
__ P105 __ D009 __ D025 __ D041 __ U108
__ P205 __ D010 __ D026 __ D042 __ U117
__ F006 __ D011 __ D027 __ D043 __ U122
__ F007 __ D012 __ D028 __ F001 __ U123
__ F008 __ D013 __ D029 __ F002 __ U135
__ F009 __ D014 __ D030 __ F003 __ U154
__ F010 __ D015 __ D031 __ F004 __ U188
__ F011 __ D016 __ D032 __ F005 __ U213
__ F012 __ D017 __ D033 __ U002 __ U220
__ F019 __ D018 __ D034 __ U003 __ U226
__ F039 __ D019 __ D035 __ U005 __ U279 __ K061

DDITIONAL CODES (Enter all codes not identified above which are associated with waste)

4. USEPA HAZARDOUS WASTE CODE(S)	5. TREATMENT STANDARDS FOR NON-PHASE II STATES (INDICATE THE APPLICABLE TREATMENT STANDARD 268.41, 268.43 OR SPECIFIED TECHNOLOGY BELOW)	6. HOW MUST THE WASTE BE MANAGED? ENTER THE LETTER FROM BELOW
P095		A

o identify F039, or UHCs managed in non-CWA, use the "F039/Underlying Hazardous Constituents Form" provided and check here: ☐
f no UHCs are present upon generation check here: ☐ Check here if disposal facility will check for all UHCs ☐ (i.e. no UHC form required)
o list additional EPA waste code(s), use the supplemental sheet and check here: ☐ In lieu of supplemental sheet you may use multiple copies of this form.

. SOLVENT CONSTITUENTS (F001 - F005) Check here if disposal facility will check for all spent solvents __

__ Acetone
__ Carbon Tetrachloride
__ Cyclohexanone
__ Ethyl benzene
__ Methylene chloride
__ 2-Nitropropane
__ 1,1,1 Trichloroethane
__ Trichloromonofluoromethane
__ Benzene
__ Chlorobenzene
__ o-Dichlorobenzene
__ Ethyl ether
__ Methyl ethyl ketone
__ Pyridine
__ 1, 1, 2-Trichloroethane
__ Xylenes
__ n-Butyl alcohol
__ O-Cresol
__ 2-Ethoxyethanol
__ Isobutanol
__ Methyl isobutyl ketone
__ Tetrachloroethylene
__ 1, 1, 2-Trichloro, 1, 2, 2-trifluoroethane
__ Carbon disulfide
__ Cresols (m&p)
__ Ethyl acetate
__ Methanol
__ Nitrobenzene
__ Toluene
__ Trichloroethylene

3. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.)

4. or ✓ **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

3.1 **RESTRICTED WASTE TREATMENT TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

3.2 **(CERTIFICATION REMOVED BY PHASE IV)**

3.3 **GOOD FAITH AND ANALYTICAL CERTIFICATION - FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

.4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

. **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

. **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

. **WASTE NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

hereby certify that all information in this and all associated documents is complete and accurate, to the best of my knowledge and information.

ignature [signature]
itle Chief, Restoration Date 8-4-04

GENERATOR COPY FORM # OES-788

ENVIRONMENTAL SERVICES

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM PHASE IV

Page ____ of ____

enerator Name: Holloman Airforce Base EPA ID # NM6572124422 State Manifest No. 02862213

If waste is a wastewater (see 40 CFR 268.2) place "w" next to the applicable code(s) Profile # 617550

CODES WITH SUBCATEGORIES (place appropriate letter from section B before each code that applies) (See 40 CFR 268 for details)

__ D001 Hi-TOC	___ D008 Lead acid batteries	___ K069 Not Calcium Sulfate	___ P065 Lo RMERC Res.	___ U151 Hi Hg
__ D001 Except Hi-TOC	___ D008 Organic Hg > 260ppm	___ K071 Rmerc Res.	___ P065 Not Inc./RMERC Res.	___ U240 2, 4 D
__ D003 Reactive Cyanide	___ D009 Inorg. Hg > 260	___ K071 Not Rmerc Res.	___ P065 Hi Inc./RMERC Res.	___ U240 2, 4 esters & Salts
__ D003 Reactive Sulfide	___ D009 Hg < 260	___ K106 Lo Rmerc Res.	___ P092 Lo Inc. Res.	
__ D003 Explosive	___ F025 Light ends	___ K106 Not Rmerc Res.	___ P092 Lo RMERC Res.	
__ D003 Water Reactives	___ F025 Spent filter	___ K106 > 260 ppm Hg	___ P092 Not Inc/RMERC Res.	
__ D003 Unexp Ord. Emg	___ K006 Hydrated	___ P047 Salts	___ P092 Hi Inc//RMERC Res.	
__ D003 Other Reactives	___ K006 Anhydrous	___ P047 Nonsalts	___ U151 Lo RMERC Res.	
__ D006 Batteries	___ K069 Calcium Sulfate	___ P065 Lo Inc. Res.	___ U151 Lo Not RMERC Res.	

he subcategory for D018-D043 waste is "treated in nonCWA/nonSDWA facility" unless the following box is checked: ☐ "treated in CWA/SDWA facility"

. COMMON CODES (Place appropriate letter from section B before each code that applies)

__ D002	__ P012	__ P030	__ P051	__ P096	__ P105	__ P205	__ F006	__ F007	__ F008	__ F009	__ F010	__ F011	__ F012	__ F019	__ F039
__ D004	__ D005	X D006	__ D007	__ D008	__ D009	__ D010	__ D011	__ D012	__ D013	__ D014	__ D015	__ D016	__ D017	__ D018	__ D019
__ D020	__ D021	__ D022	__ D023	__ D024	__ D025	__ D026	__ D027	__ D028	__ D029	__ D030	__ D031	__ D032	__ D033	__ D034	__ D035
__ D036	__ D037	__ D038	__ D039	__ D040	__ D041	__ D042	__ D043	__ F001	__ F002	__ F003	__ F004	__ F005	__ U002	__ U003	__ U006
__ U007	__ U044	__ U061	__ U072	__ U080	__ U108	__ U117	__ U122	__ U123	__ U136	__ U154	__ U188	__ U213	__ U220	__ U226	__ U279
															__ K061

DDITIONAL CODES (Enter all codes not identified above which are associated with waste)

4. USEPA HAZARDOUS WASTE CODE(S)	5. TREATMENT STANDARDS FOR NON-PHASE II STATES (INDICATE THE APPLICABLE TREATMENT STANDARD 268.41, 268.43 OR SPECIFIED TECHNOLOGY BELOW)	6. HOW MUST THE WASTE BE MANAGED? ENTER THE LETTER FROM BELOW
		A

'o identify F039, or UHCs managed in non-CWA, use the "F039/Underlying Hazardous Constituents Form" provided and check here: ☐
f no UHCs are present upon generation check here: ☐ Check here if disposal facility will check for all UHCs ☐ (i.e. no UHC form required)
'o list additional EPA waste code(s), use the supplemental sheet and check here: ☐ In lieu of supplemental sheet you may use multiple copies of this form.

'. SOLVENT CONSTITUENTS (F001 - F005) Check here if disposal facility will check for all spent solvents ___

___ Acetone	___ Benzene	___ n-Butyl alcohol	___ Carbon disulfide
___ Carbon Tetrachloride	___ Chlorobenzene	___ O-Cresol	___ Cresols (m&p)
___ Cyclohexanone	___ o-Dichlorobenzene	___ 2-Ethoxyethanol	___ Ethyl acetate
___ Ethyl benzene	___ Ethyl ether	___ Isobutanol	___ Methanol
___ Methylene chloride	___ Methyl ethyl ketone	___ Methyl isobutyl ketone	___ Nitrobenzene
___ 2-Nitropropane	___ Pyridine	___ Tetrachloroethylene	___ Toluene
___ 1,1,1 Trichloroethane	___ 1, 1, 2-Trichloroethane	___ 1, 1, 2-Trichloro, 1, 2, 2-trifluoroethane	___ Trichloroethylene
___ Trichloromonofluoromethane	___ Xylenes		

. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.)

. or ✓ **RESTRICTED WASTE REQUIRES TREATMENT**
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☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

.1 **RESTRICTED WASTE TREATMENT TO PERFORMANCE STANDARDS**
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.2 **(CERTIFICATION REMOVED BY PHASE IV)**

.3 **GOOD FAITH AND ANALYTICAL CERTIFICATION - FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

.4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

. **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

. **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

. **WASTE NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

hereby certify that all information in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature ✓ [signature]

Title ✓ Chief, Restoration Date ✓ 8-4-04

FORM # OES-785

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Aug-02-2004 14:10 From-UNTA ENT, + T-537 P.001/001 F-506

Environmental Services

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM PHASE IV

Page ____ of ____

Generator Name: Holloman Airforce Base EPA ID # NM6572124422 State Manifest No. 028622213

If waste is a wastewater (see 40 CFR 268.2) place "w" next to the applicable code(s) Profile # 671549

CODES WITH SUBCATEGORIES (place appropriate letter from section B before each code that applies) (See 40 CFR 268 for details)

__ D001 Hi-TOC	__ D008 Lead acid batteries	__ K069 Not Calcium Sulfate	__ P065 Lo RMERC Res.	__ U151 Hi Hg
__ D001 Except Hi-TOC	__ D009 Organic Hg > 260ppm	__ K071 Rmerc Res.	__ P065 Not Inc./RMERC Res.	__ U240 2, 4 D
__ D003 Reactive Cyanide	__ D009 Inorg. Hg > 260	__ K071 Not Rmerc Res.	__ P065 Hi Inc./RMERC Res.	__ U240 2, 4 esters & Salts
__ D003 Reactive Sulfide	__ D009 Hg < 260	__ K106 Lo Rmerc Res.	__ P092 Lo Inc. Res.	
__ D003 Explosive	__ F025 Light ends	__ K106 Not Rmerc Res.	__ P092 Lo RMERC Res.	
__ D003 Water Reactives	__ K006 Hydrated	__ K106 > 260 ppm Hg	__ P092 Not Inc/RMERC Res.	
__ D003 Unexp Ord. Emg	__ K006 Anhydrous	__ P047 Salts	__ P092 Hi Inc//RMERC Res.	
__ D003 Other Reactives	__ K069 Calcium Sulfate	__ P047 Nonsalts	__ U151 Lo RMERC Res.	
__ D006 Batteries		__ P085 Lo Inc. Res.	__ U151 Lo Not RMERC Res.	

The subcategory for D018-D043 waste is "treated in nonCWA/nonSDWA facility" unless the following box is checked: ☐ "treated in CWA/SDWA facility"

COMMON CODES (Place appropriate letter from section B before each code that applies)

__ D002	__ P012	__ P030	__ P051	__ P098	__ P105	__ P205	__ F006	__ F007	__ F008	__ F009	__ F010	__ F011	__ F012	__ F019	__ F039
__ D004	__ D005	__ D006	__ D007	__ D008	__ D009	__ D010	__ D011	__ D012	__ D013	__ D014	__ D015	__ D016	__ D017	__ D018	__ D019
__ D020	__ D021	__ D022	__ D023	__ D024	__ D025	__ D026	__ D027	__ D028	__ D029	__ D030	__ D031	__ D032	__ D033	__ D034	__ D035
__ D036	__ D037	__ D038	__ D039	__ D040	__ D041	__ D042	__ D043	__ F001	__ F002	__ F003	__ F004	__ F005	__ U002	__ U003	__ U006
__ U007	__ U044	__ U061	__ U072	__ U080	__ U108	__ U117	__ U122	__ U123	__ U136	__ U154	__ U188	__ U213	__ U220	__ U226	__ U279
															__ K061

ADDITIONAL CODES (Enter all codes not identified above which are associated with waste)

~~4. USEPA HAZARDOUS WASTE CODE(S)~~	5. TREATMENT STANDARDS FOR NON-PHASE II STATES (INDICATE THE APPLICABLE TREATMENT STANDARD 268.41, 268.43 OR SPECIFIED TECHNOLOGY BELOW)	6. HOW MUST THE WASTE BE MANAGED? ENTER THE LETTER FROM BELOW
3X Material		A

To identify F039, or UHCs managed in non-CWA, use the "F039/Underlying Hazardous Constituents Form" provided and check here: ☐
If no UHCs are present upon generation check here: ☐ Check here if disposal facility will check for all UHCs ☐ (i.e. no UHC form required)
To list additional EPA waste code(s), use the supplemental sheet and check here: ☐ In lieu of supplemental sheet you may use multiple copies of this form.

7. SOLVENT CONSTITUENTS (F001 - F005) Check here if disposal facility will check for all spent solvents ___

__ Acetone	__ Benzene	__ n-Butyl alcohol	__ Carbon disulfide
__ Carbon Tetrachloride	__ Chlorobenzene	__ O-Cresol	__ Cresols (m&p)
__ Cyclohexanone	__ o-Dichlorobenzene	__ 2-Ethoxyethanol	__ Ethyl acetate
__ Ethyl benzene	__ Ethyl ether	__ Isobutanol	__ Methanol
__ Methylene chloride	__ Methyl ethyl ketone	__ Methyl isobutyl ketone	__ Nitrobenzene
__ 2-Nitropropane	__ Pyridine	__ Tetrachloroethylene	__ Toluene
__ 1,1,1 Trichloroethane	__ 1, 1, 2-Trichloroethane	__ 1, 1, 2-Trichloro, 1, 2, 2-trifluoroethane	__ Trichloroethylene
__ Trichloromonofluoromethane	__ Xylenes		

8. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.)

A. or ✓ **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

B.1 **RESTRICTED WASTE TREATMENT TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 40 CFR 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

B.2 **(CERTIFICATION REMOVED BY PHASE IV)**

B.3 **GOOD FAITH AND ANALYTICAL CERTIFICATION - FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR 268.45."

D. **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law that I have personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment."

E. **WASTE NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature ✓ [signature]

Title ✓ Chief, Restoration Date ✓ 8-4-04

FORM # OES-788

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8/26/04 CASE NARRATIVE

ZAPATA ENGINEERING 7337

1100 KENILWORTH AVENUE
CHARLOTTE, NC 28204

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: HOLLOMAN AFB
Project Number: 2623.
Laboratory Project Number: 382930.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accredidation.

Page 1

Sample Identification	Lab Number	Collection Date
HAFB-DECON-01	04-A111012	7/19/04
TB-071904-01	04-A111013	

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Sample Identification	Lab Number	Collection Date

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: _____ Report Date: 8/ 4/04

Johnny A. Mitchell, Operations Manager
Michael H. Dunn, M.S., Technical Director
Pamela A. Langford, Technical Services
Eric S. Smith, QA/QC Director
Sandra McMillin, Technical Services
Gail A. Lage, Technical Services
Glenn L. Norton, Technical Services
Kelly S. Comstock, Technical Services
Roxanne L. Connor, Technical Services

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ANALYTICAL REPORT

ZAPATA ENGINEERING 7337

1100 KENILWORTH AVENUE
CHARLOTTE, NC 28204

Project: 2623
Project Name: HOLLOMAN AFB
Sampler: CHRIS BROWN

Lab Number: 04-A111012
Sample ID: HAFB-DECON-01
Sample Type: Liquid waste
Site ID:

Date Collected: 7/19/04
Time Collected: 7:30
Date Received: 7/20/04
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
EXPLOSIVES										
HMX	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
RDX	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
1,3,5-TNB	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
1,3-DNB	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
Tetryl	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
NB	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
2,4,6-TNT	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
4-Am-DNT	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
2-Am-DNT	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
2,6-DNT	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
2,4-DNT	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
2-NT	0.00689	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
4-NT	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
3-NT	ND	mg/l	0.00010	0.00010	1	7/29/04	12:07	K.Phelps	8330	4818
GENERAL CHEMISTRY PARAMETERS										
pH	8.10	pH Units			1	7/21/04	13:25	B.Minor	9040/150.1	9954
Reactive Cyanide	ND	mg/kg	50.0	50.0	20	7/21/04	19:30	K.Saiyasak	SW-846	652
Reactive Sulfide	ND	mg/kg	100.	100.	5	7/23/04	16:40	K.Saiyasak	SW-846	1619
Flash Point, Closed Cup	no flash up to 200F					7/21/04	12:00	T. Beverly	1010	1686

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 04-A111012
Sample ID: HAFB-DECON-01
Project: 2623
Page 2

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Time	Analyst	Method	QC Batch
Arsenic, TCLP	0.300	mg/l	5.0	105	7/23/04	10:05	C. Martin	6010B	9950
Barium, TCLP	< 1.00	mg/l	100	110	7/23/04	10:05	C. Martin	6010B	9950
Cadmium, TCLP	< 0.100	mg/l	1.0	100	7/23/04	10:05	C. Martin	6010B	9950
Chromium, TCLP	< 0.500	mg/l	5.0	101	7/23/04	10:05	C. Martin	6010B	9950
Lead, TCLP	< 0.500	mg/l	5.0	93	7/23/04	10:05	C. Martin	6010B	9950
Mercury, TCLP	< 0.0100	mg/l	0.2	98	7/23/04	13:46	K. Keller	7470A	9951
Selenium, TCLP	< 0.100	mg/l	1.0	105	7/23/04	10:05	C. Martin	6010B	9950
Silver, TCLP	< 0.100	mg/l	5.0	104	7/23/04	10:05	C. Martin	6010B	9950
Benzene	< 0.0200	mg/l	0.5	102	7/26/04	19:25	B.Herford	8260	9937
Carbon tetrachloride	< 0.0200	mg/l	0.5	114	7/26/04	19:25	B.Herford	8260	9937
Chlorobenzene	< 0.0200	mg/l	100	100	7/26/04	19:25	B.Herford	8260	9937
Chloroform	8.00	mg/l	6.0	101	7/26/04	19:25	B.Herford	8260	9937
1,2-Dichloroethane	< 0.0200	mg/l	0.5	100	7/26/04	19:25	B.Herford	8260	9937
1,1-Dichloroethene	< 0.0200	mg/l	0.7	98	7/26/04	19:25	B.Herford	8260	9937
Methylethylketone	< 0.100	mg/l	200	104	7/26/04	19:25	B.Herford	8260	9937
Tetrachloroethene	< 0.0200	mg/l	0.7	100	7/26/04	19:25	B.Herford	8260	9937
Trichloroethene	< 0.0200	mg/l	0.5	98	7/26/04	19:25	B.Herford	8260	9937
Vinyl Chloride	< 0.0200	mg/l	0.2	80	7/26/04	19:25	B.Herford	8260	9937
Cresols	< 4.00	mg/l	200	Empty	7/26/04	13:07	R. Beard	8270	4554
1,4-Dichlorobenzene	< 4.00	mg/l	7.5	Empty	7/26/04	13:07	R. Beard	8270	4554
2,4-Dinitrotoluene	< 4.00	mg/l	0.13	Empty	7/26/04	13:07	R. Beard	8270	4554
Hexachlorobenzene	< 4.00	mg/l	0.13	Empty	7/26/04	13:07	R. Beard	8270	4554
Hexchlor-1,3-butadien	< 4.00	mg/l	0.5	Empty	7/26/04	13:07	R. Beard	8270	4554
Hexachloroethane	< 4.00	mg/l	3.0	Empty	7/26/04	13:07	R. Beard	8270	4554
Nitrobenzene	< 4.00	mg/l	2.0	Empty	7/26/04	13:07	R. Beard	8270	4554
Pentachlorophenol	< 4.00	mg/l	100	Empty	7/26/04	13:07	R. Beard	8270	4554
Pyridine	< 4.00	mg/l	5.0	Empty	7/26/04	13:07	R. Beard	8270	4554
2,4,5-Trichlorophenol	< 4.00	mg/l	400	Empty	7/26/04	13:07	R. Beard	8270	4554
2,4,6-Trichlorophenol	< 4.00	mg/l	2.0	Empty	7/26/04	13:07	R. Beard	8270	4554
Chlordane	< 0.0005	mg/l	0.030	110	7/27/04	2:20	K. Roberso	8081A	4599
2,4-D	< 10.0	mg/l	10.0	72	7/28/04	13:41	K. Roberso	8151A	4601
Endrin	< 0.0005	mg/l	0.02	92	7/27/04	2:20	K. Roberso	8081A	4599
Heptachlor	< 0.0005	mg/l	0.008	91	7/27/04	2:20	K. Roberso	8081A	4599
Lindane	< 0.0005	mg/l	0.4	79	7/27/04	2:20	K. Roberso	8081A	4599

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 04-A111012
Sample ID: HAFB-DECON-01
Project: 2623
Page 3

TCLP Results

Analyte	Result	Units	Reg Limit	Matrix Spike Recovery (%)	Date	Time	Analyst	Method	QC Batch
Methoxychlor	< 0.0005	mg/l	10.0	101	7/27/04	2:20	K. Roberso	8081A	4599
Toxaphene	< 0.0100	mg/l	0.50	107	7/27/04	2:20	K. Roberso	8081A	4599
Silvex	< 1.00	mg/l	1.0	60	7/28/04	13:41	K. Roberso	8151A	4601
Heptachlor epoxide	< 0.0005	mg/l	0.008	82	7/27/04	2:20	K. Roberso	8081A	4599
TCLP Extraction	Initiated				7/21/04	17:05	B.Minor	1311	9936
Zero Headspace Extraction	Initiated				7/21/04	17:05	B.Minor	1311	9936

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Time	Analyst	Method
TCLP	Initiated		7/21/04	17:05	B.Minor	1311
TCLP-ZHE	Initiated		7/21/04	17:05	B.Minor	1311
TCLP Herbicides	5.0 ml	5.00 ml	7/23/04		K. Turner	3510
TCLP Pesticides	100. ml	10.0 ml	7/23/04		K. Turner	3510
TCLP BNA's	500. ml	1.0 ml	7/23/04		K. Turner	3510
Explosives	400. ml	4.0 ml	7/26/04		M. Ricke	8330

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	102.	71. - 128.
VOA Surr Toluene-d8	100.	77. - 119.
VOA Surr, 4-BFB	100.	79. - 123.
3,4-DNT, surrogate	79.	47. - 102.
Pest Surr TCMX	120.	46. - 135.
PCB Surr DCB	108.	30. - 117.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 04-A111012
Sample ID: HAFB-DECON-01
Project: 2623
Page 4

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.
Flash point/ignitability reported to the nearest 10 deg F.
All results reported on a wet weight basis.
Reactive Sulfide: The matrix of this sample interfered with
this method causing negative values.
Results for the following analytes differ by more than 40 % on the
two columns for the 8330 analysis: 2-NT.
TCLP spikes and surrogates diluted out due to sample matrix.

End of Sample Report.

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ANALYTICAL REPORT

ZAPATA ENGINEERING 7337

1100 KENILWORTH AVENUE
CHARLOTTE, NC 28204

Project: 2623
Project Name: HOLLOMAN AFB
Sampler: CHRIS BROWN

Lab Number: 04-A111013
Sample ID: TB-071904-01
Sample Type: Ground water
Site ID:

Date Collected:
Time Collected:
Date Received: 7/20/04
Time Received: 8:10
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1	7/26/04	18:57	B.Herford	8260B	9956
2-Butanone	ND	ug/l	25.0	1	7/26/04	18:57	B.Herford	8260B	9956
Carbon tetrachloride	ND	ug/l	1.00	1	7/26/04	18:57	B.Herford	8260B	9956
Chlorobenzene	ND	ug/l	1.00	1	7/26/04	18:57	B.Herford	8260B	9956
Chloroform	ND	ug/l	1.00	1	7/26/04	18:57	B.Herford	8260B	9956
1,2-Dichloroethane	ND	ug/l	1.00	1	7/26/04	18:57	B.Herford	8260B	9956
1,1-Dichloroethene	ND	ug/l	1.00	1	7/26/04	18:57	B.Herford	8260B	9956
Tetrachloroethene	ND	ug/l	1.00	1	7/26/04	18:57	B.Herford	8260B	9956
Trichloroethene	ND	ug/l	1.00	1	7/26/04	18:57	B.Herford	8260B	9956
Vinyl chloride	ND	ug/l	1.00	1	7/26/04	18:57	B.Herford	8260B	9956

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	95.	71. - 128.
VOA Surr Toluene-d8	95.	77. - 119.
VOA Surr, 4-BFB	103.	79. - 123.
VOA Surr, DBFM	97.	78. - 124.

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 04-A111013
Sample ID: TB-071904-01
Project: 2623
Page 2

LABORATORY COMMENTS:
ND = Not detected at the limit of detection
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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PROJECT QUALITY CONTROL DATA
Project Number: 2623
Project Name: HOLLOMAN AFB
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Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
VOA PARAMETERS								
Benzene	mg/l	< 0.0200	0.510	0.500	102	71 - 134	9937	04-A111012
Carbon tetrachloride	mg/l	< 0.0200	0.570	0.500	114	42 - 164	9937	04-A111012
Chlorobenzene	mg/l	< 0.0200	0.500	0.500	100	53 - 146	9937	04-A111012
Chloroform	mg/l	8.00	10.1	0.500	420#	62 - 150	9937	04-A111012
1,2-Dichloroethane	mg/l	< 0.0200	0.500	0.500	100	63 - 146	9937	04-A111012
1,1-Dichloroethene	mg/l	< 0.0200	0.490	0.500	98	68 - 149	9937	04-A111012
Methylethylketone	mg/l	< 0.100	2.60	2.50	104	48 - 164	9937	04-A111012
Tetrachloroethene	mg/l	< 0.0200	0.500	0.500	100	46 - 155	9937	04-A111012
Trichloroethene	mg/l	< 0.0200	0.490	0.500	98	58 - 152	9937	04-A111012
Vinyl Chloride	mg/l	< 0.0200	0.400	0.500	80	52 - 156	9937	04-A111012
Benzene	mg/l	< 0.0100	0.514	0.500	103	73 - 135	9956	111012
Chlorobenzene	mg/l	< 0.0100	0.504	0.500	101	77 - 130	9956	111012
1,1-Dichloroethene	mg/l	< 0.0100	0.494	0.500	99	71 - 143	9956	111012
Trichloroethene	mg/l	< 0.0100	0.491	0.500	98	72 - 141	9956	111012
Tetrachloroethene	mg/l	< 0.0100	0.505	0.500	101	68 - 140	9956	111012
VOA Surr 1,2-DCA-d4	% Rec				102	71 - 128	9956	
VOA Surr Toluene-d8	% Rec				100	77 - 119	9956	
VOA Surr, 4-BFB	% Rec				100	79 - 123	9956	
VOA Surr, DBFM	% Rec				105	78 - 124	9956	
PEST/PCB/HERB PARAMETERS								
Endrin	mg/l	< 0.00050	0.00930	0.0100	93	42. - 210.	4599	04-A112397
Endrin	mg/l	< 0.00050	0.00860	0.0100	86	42. - 210.	4599	04-A112397
Heptachlor	mg/l	< 0.00050	0.00910	0.0100	91	36. - 161.	4599	04-A112397
Heptachlor	mg/l	< 0.00050	0.00840	0.0100	84	36. - 161.	4599	04-A112397
Lindane	mg/l	< 0.00050	0.00770	0.0100	77	43. - 165.	4599	04-A112397
Lindane	mg/l	< 0.00050	0.00720	0.0100	72	43. - 165.	4599	04-A112397

Project QC continued . . .

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Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
Methoxychlor	mg/l	< 0.00050	0.0103	0.0100	103	26. - 196.	4599	04-A112397
Methoxychlor	mg/l	< 0.00050	0.00960	0.0100	96	26. - 196.	4599	04-A112397
Heptachlor epoxide	mg/l	< 0.00050	0.00810	0.0100	81	37. - 163.	4599	04-A112397
Heptachlor epoxide	mg/l	< 0.00050	0.00760	0.0100	76	37. - 163.	4599	04-A112397
METALS								
Arsenic, TCLP	mg/l	0.300	10.8	10.0	105	75. - 125.	9950	04-A111012
Barium, TCLP	mg/l	< 1.00	110.	100.	110	75. - 125.	9950	04-A111012
Cadmium, TCLP	mg/l	< 0.100	9.96	10.0	100	75. - 125.	9950	04-A111012
Chromium, TCLP	mg/l	< 0.500	50.4	50.0	101	75. - 125.	9950	04-A111012
Lead, TCLP	mg/l	< 0.500	46.6	50.0	93	75. - 125.	9950	04-A111012
Mercury, TCLP	mg/l	< 0.0100	0.980	1.00	98	62. - 137.	9951	04-A111012
Selenium, TCLP	mg/l	< 0.100	10.5	10.0	105	75. - 125.	9950	04-A111012
Silver, TCLP	mg/l	< 0.100	10.4	10.0	104	75. - 125.	9950	04-A111012
Reactive Cyanide	mg/kg	< 50.0	79.6	200.	40	10 - 120	652	04-A109427
Reactive Cyanide	mg/kg	< 50.0	80.2	200.	40	10 - 120	652	04-A109427
Reactive Sulfide	mg/kg	< 100.	130.	900.	14	10 - 120	1619	04-A111172
Reactive Sulfide	mg/kg	< 100.	100.	900.	11	10 - 120	1619	04-A111172
HMX	mg/l	< 0.00010	0.00786	0.0100	79	29. - 107.	4818	blank
RDX	mg/l	< 0.00010	0.00790	0.0100	79	27. - 113.	4818	blank
1,3,5-TNB	mg/l	< 0.00010	0.00706	0.0100	71	28. - 109.	4818	blank
1,3-DNB	mg/l	< 0.00010	0.00762	0.0100	76	26. - 108.	4818	blank
Tetryl	mg/l	< 0.00010	0.00931	0.0100	93	24. - 106.	4818	blank
NB	mg/l	< 0.00010	0.00381	0.0100	38	33. - 99.	4818	blank
2,4,6-TNT	mg/l	< 0.00010	0.00963	0.0100	96	31. - 105.	4818	blank
4-Am-DNT	mg/l	< 0.00010	0.00601	0.0100	60	40. - 152.	4818	blank
2-Am-DNT	mg/l	< 0.00010	0.00643	0.0100	64	29. - 113.	4818	blank
2,6-DNT	mg/l	< 0.00010	0.00724	0.0100	72	31. - 103.	4818	blank
2,4-DNT	mg/l	< 0.00010	0.00742	0.0100	74	33. - 105.	4818	blank
2-NT	mg/l	< 0.00010	0.00240	0.0100	24	23. - 100.	4818	blank
4-NT	mg/l	< 0.00010	0.00415	0.0100	42	31. - 104.	4818	blank

Project QC continued . . .

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Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
3-NT	mg/l	< 0.00010	0.00461	0.0100	46	28. - 104.	4818	blank

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.510	0.520	1.94	29.	9937
Carbon tetrachloride	mg/l	0.570	0.570	0.00	23.	9937
Chlorobenzene	mg/l	0.500	0.510	1.98	18.	9937
Chloroform	mg/l	10.1	9.88	2.20	16.	9937
1,2-Dichloroethane	mg/l	0.500	0.490	2.02	19.	9937
1,1-Dichloroethene	mg/l	0.490	0.500	2.02	16.	9937
Methylethylketone	mg/l	2.60	2.66	2.28	12.	9937
Tetrachloroethene	mg/l	0.500	0.520	3.92	20.	9937
Trichloroethene	mg/l	0.490	0.510	4.00	26.	9937
Vinyl Chloride	mg/l	0.400	0.410	2.47	18.	9937
Benzene	mg/l	0.514	0.515	0.19	21.	9956
Chlorobenzene	mg/l	0.504	0.512	1.57	19.	9956
1,1-Dichloroethene	mg/l	0.494	0.502	1.61	21.	9956
Trichloroethene	mg/l	0.491	0.506	3.01	21.	9956
Tetrachloroethene	mg/l	0.505	0.517	2.35	21.	9956

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VOA Surr 1,2-DCA-d4	% Rec		100.			9956
VOA Surr Toluene-d8	% Rec		100.			9956
VOA Surr, 4-BFB	% Rec		102.			9956
VOA Surr, DBFM	% Rec		104.			9956
PEST/PCB/HERB PARAMETERS						
Endrin	mg/l	0.00930	0.00860	7.82	44.	4599
Heptachlor	mg/l	0.00910	0.00840	8.00	129.	4599
Lindane	mg/l	0.00770	0.00720	6.71	41.	4599
Methoxychlor	mg/l	0.0103	0.00960	7.04	41.	4599
Heptachlor epoxide	mg/l	0.00810	0.00760	6.37	41.	4599
MISC PARAMETERS						
HMX	mg/l	0.00786	0.00757	3.76	50	4818
RDX	mg/l	0.00790	0.00767	2.95	50	4818
1,3,5-TNB	mg/l	0.00706	0.00688	2.58	50	4818
1,3-DNB	mg/l	0.00762	0.00693	9.48	50	4818
Tetryl	mg/l	0.00931	0.0100	7.15	50	4818
NB	mg/l	0.00381	< 0.00010	189.77#	50	4818
2,4,6-TNT	mg/l	0.00963	0.00858	11.53	50	4818
4-Am-DNT	mg/l	0.00601	0.00395	41.37	50	4818
2-Am-DNT	mg/l	0.00643	0.00583	9.79	50	4818
2,6-DNT	mg/l	0.00724	0.00573	23.28	50	4818
2,4-DNT	mg/l	0.00742	0.00719	3.15	50	4818
2-NT	mg/l	0.00240	< 0.00010	184.00#	50	4818
4-NT	mg/l	0.00415	< 0.00010	190.59#	50	4818
3-NT	mg/l	0.00461	< 0.00010	191.51#	50	4818
Reactive Cyanide	mg/kg	79.6	80.2	0.75	20	652
Reactive Sulfide	mg/kg	130.	100.	26.09#	20	1619

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch

Project QC continued . . .

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VOA PARAMETERS						
Benzene	mg/l	0.0500	0.0560	112	80 - 120	9937
Carbon tetrachloride	mg/l	0.0500	0.0610	122	68 - 136	9937
Chlorobenzene	mg/l	0.0500	0.0540	108	79 - 124	9937
Chloroform	mg/l	0.0500	0.0550	110	76 - 131	9937
1,2-Dichloroethane	mg/l	0.0500	0.0520	104	74 - 134	9937
1,1-Dichloroethene	mg/l	0.0500	0.0610	122	76 - 136	9937
Methylethylketone	mg/l	0.250	0.270	108	67 - 145	9937
Tetrachloroethene	mg/l	0.0500	0.0550	110	74 - 130	9937
Trichloroethene	mg/l	0.0500	0.0520	104	73 - 137	9937
Vinyl Chloride	mg/l	0.0500	0.0570	114	60 - 142	9937
Benzene	mg/l	0.0500	0.0556	111	81 - 121	9956
2-Butanone	mg/l	0.250	0.270	108	62 - 146	9956
Carbon tetrachloride	mg/l	0.0500	0.0611	122	70 - 131	9956
Chlorobenzene	mg/l	0.0500	0.0540	108	87 - 120	9956
Chloroform	mg/l	0.0500	0.0549	110	77 - 128	9956
1,2-Dichloroethane	mg/l	0.0500	0.0523	105	70 - 136	9956
1,1-Dichloroethene	mg/l	0.0500	0.0611	122	77 - 133	9956
Tetrachloroethene	mg/l	0.0500	0.0549	110	77 - 129	9956
Trichloroethene	mg/l	0.0500	0.0517	103	80 - 132	9956
Vinyl chloride	mg/l	0.0500	0.0570	114	69 - 139	9956
VOA Surr 1,2-DCA-d4	% Rec			97	71 - 128	9956
VOA Surr Toluene-d8	% Rec			99	77 - 119	9956
VOA Surr, 4-BFB	% Rec			103	79 - 123	9956
VOA Surr, DBFM	% Rec			102	78 - 124	9956
EXTRACTABLE PARAMETERS						
Cresols	mg/l	0.600	0.260	43	33 - 90	4554
1,4-Dichlorobenzene	mg/l	0.200	0.0920	46	31 - 97	4554
2,4-Dinitrotoluene	mg/l	0.200	0.120	60	46 - 113	4554
Hexachlorobenzene	mg/l	0.200	0.152	76	41 - 111	4554
Hexchlor-1,3-butadien	mg/l	0.200	0.0800	40	36 - 94	4554
Hexachloroethane	mg/l	0.200	0.0840	42	38 - 96	4554
Nitrobenzene	mg/l	0.200	0.120	60	30 - 117	4554
Pentachlorophenol	mg/l	0.200	0.136	68	39 - 113	4554
Pyridine	mg/l	0.200	0.0840	42	20 - 76	4554
2,4,5-Trichlorophenol	mg/l	0.200	0.128	64	35 - 111	4554

Project QC continued . . .

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Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
2,4,6-Trichlorophenol	mg/l	0.200	0.116	58	36 - 118	4554
PEST/PCB/HERB PARAMETERS						
Chlordane	mg/l	0.0500	0.0546	109	35 - 165	4599
2,4-D	mg/l	0.500	0.360	72	28 - 157	4601
Endrin	mg/l	0.0100	0.00920	92	78 - 168	4599
Heptachlor	mg/l	0.0100	0.00910	91	45 - 149	4599
Lindane	mg/l	0.0100	0.00790	79	61 - 153	4599
Methoxychlor	mg/l	0.0100	0.0101	101	54 - 163	4599
Toxaphene	mg/l	0.100	0.107	107	41 - 167	4599
Silvex	mg/l	0.500	0.300	60	17 - 120	4601
Heptachlor epoxide	mg/l	0.0100	0.00820	82	66 - 146	4599
METALS						
Arsenic, TCLP	mg/l	1.00	0.905	90	80 - 120	9950
Barium, TCLP	mg/l	10.0	10.1	101	80 - 120	9950
Cadmium, TCLP	mg/l	1.00	0.935	94	80 - 120	9950
Chromium, TCLP	mg/l	5.00	4.85	97	80 - 120	9950
Lead, TCLP	mg/l	5.00	4.58	92	80 - 120	9950
Mercury, TCLP	mg/l	0.100	0.103	103	76 - 123	9951
Selenium, TCLP	mg/l	1.00	0.903	90	80 - 120	9950
Silver, TCLP	mg/l	1.00	0.972	97	80 - 120	9950
MISC PARAMETERS						
HMX	mg/l	0.0100	0.00669	67	42 - 95	4818
RDX	mg/l	0.0100	0.00671	67	37 - 104	4818
1,3,5-TNB	mg/l	0.0100	0.00589	59	42 - 98	4818
1,3-DNB	mg/l	0.0100	0.00631	63	33 - 104	4818
Tetryl	mg/l	0.0100	0.00815	82	35 - 100	4818
NB	mg/l	0.0100	0.00451	45	40 - 93	4818
2,4,6-TNT	mg/l	0.0100	0.00840	84	47 - 92	4818
4-Am-DNT	mg/l	0.0100	0.00579	58	40 - 105	4818
2-Am-DNT	mg/l	0.0100	0.00613	61	44 - 99	4818
2,6-DNT	mg/l	0.0100	0.00608	61	44 - 91	4818

Project QC continued . . .

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Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
2,4-DNT	mg/l	0.0100	0.00673	67	46 - 93	4818
2-NT	mg/l	0.0100	0.00449	45	30 - 93	4818
4-NT	mg/l	0.0100	0.00527	53	33 - 101	4818
3-NT	mg/l	0.0100	0.00557	56	35 - 100	4818
MISC PARAMETERS						
Reactive Cyanide	mg/kg	200.	214.	107	49 - 142	652
Reactive Sulfide	mg/kg	900.	695.	77 #	86 - 109	1619

Duplicates

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd
Chromium, TCLP	mg/l	< 0.500	< 0.500	N/A	15.	9950	04-A111012
pH	pH Units	8.10	8.20	1.23	15.	9954	04-A111012
Reactive Cyanide	mg/kg	< 50.0	< 50.0	N/A	15.	652	04-A111012
Reactive Sulfide	mg/kg	< 100.	< 100.	N/A	15.	1619	04-A111012

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed

Project QC continued . . .

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VOA PARAMETERS					
Benzene	< 0.00200	mg/l	9937	7/26/04	11:49
Carbon tetrachloride	< 0.00200	mg/l	9937	7/26/04	11:49
Chlorobenzene	< 0.00200	mg/l	9937	7/26/04	11:49
Chloroform	< 0.00200	mg/l	9937	7/26/04	11:49
1,2-Dichloroethane	< 0.00200	mg/l	9937	7/26/04	11:49
1,1-Dichloroethene	< 0.00200	mg/l	9937	7/26/04	11:49
Methylethylketone	< 0.0100	mg/l	9937	7/26/04	11:49
Tetrachloroethene	< 0.00200	mg/l	9937	7/26/04	11:49
Trichloroethene	< 0.00200	mg/l	9937	7/26/04	11:49
Vinyl Chloride	< 0.00200	mg/l	9937	7/26/04	11:49
Benzene	< 0.0005	mg/l	9956	7/26/04	11:49
2-Butanone	< 0.00310	mg/l	9956	7/26/04	11:49
Carbon tetrachloride	< 0.00040	mg/l	9956	7/26/04	11:49
Chlorobenzene	< 0.00020	mg/l	9956	7/26/04	11:49
Chloroform	< 0.00080	mg/l	9956	7/26/04	11:49
1,2-Dichloroethane	< 0.00060	mg/l	9956	7/26/04	11:49
1,1-Dichloroethene	< 0.00060	mg/l	9956	7/26/04	11:49
Tetrachloroethene	< 0.00040	mg/l	9956	7/26/04	11:49
Trichloroethene	< 0.00040	mg/l	9956	7/26/04	11:49
Vinyl chloride	< 0.00050	mg/l	9956	7/26/04	11:49
VOA Surr 1,2-DCA-d4	95.	% Rec	9937	7/26/04	11:49
VOA Surr 1,2-DCA-d4	95.	% Rec	9956	7/26/04	11:49
VOA Surr Toluene-d8	97.	% Rec	9937	7/26/04	11:49
VOA Surr Toluene-d8	97.	% Rec	9956	7/26/04	11:49
VOA Surr, 4-BFB	103.	% Rec	9937	7/26/04	11:49
VOA Surr, 4-BFB	103.	% Rec	9956	7/26/04	11:49
VOA Surr, DBFM	95.	% Rec	9956	7/26/04	11:49
EXTRACTABLE PARAMETERS					
Cresols	< 0.0100	mg/l	4554	7/25/04	22:24
1,4-Dichlorobenzene	< 0.0100	mg/l	4554	7/25/04	22:24
2,4-Dinitrotoluene	< 0.0100	mg/l	4554	7/25/04	22:24
Hexachlorobenzene	< 0.0100	mg/l	4554	7/25/04	22:24
Hexchlor-1,3-butadien	< 0.0100	mg/l	4554	7/25/04	22:24
Hexachloroethane	< 0.0100	mg/l	4554	7/25/04	22:24
Nitrobenzene	< 0.0100	mg/l	4554	7/25/04	22:24

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Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
Pentachlorophenol	< 0.0100	mg/l	4554	7/25/04	22:24
Pyridine	< 0.0100	mg/l	4554	7/25/04	22:24
2,4,5-Trichlorophenol	< 0.0100	mg/l	4554	7/25/04	22:24
2,4,6-Trichlorophenol	< 0.0100	mg/l	4554	7/25/04	22:24
PEST/PCB/HERB PARAMETERS					
Chlordane	< 0.00050	mg/l	4599	7/26/04	23:41
2,4-D	< 0.100	mg/l	4601	7/27/04	14:37
Endrin	< 0.00050	mg/l	4599	7/26/04	23:41
Heptachlor	< 0.00050	mg/l	4599	7/26/04	23:41
Lindane	< 0.00050	mg/l	4599	7/26/04	23:41
Methoxychlor	< 0.00050	mg/l	4599	7/26/04	23:41
Toxaphene	< 0.0100	mg/l	4599	7/26/04	23:41
Silvex	< 0.0100	mg/l	4601	7/27/04	14:37
Heptachlor epoxide	< 0.00050	mg/l	4599	7/26/04	23:41
Pest Surr TCMX	92.	% Rec	4599	7/26/04	23:41
PCB Surr DCB	100.	% Rec	4599	7/26/04	23:41
METALS					
Arsenic, TCLP	< 0.100	mg/l	9950	7/23/04	10:05
Barium, TCLP	< 1.00	mg/l	9950	7/23/04	10:05
Cadmium, TCLP	< 0.100	mg/l	9950	7/23/04	10:05
Chromium, TCLP	< 0.500	mg/l	9950	7/23/04	10:05
Lead, TCLP	< 0.500	mg/l	9950	7/23/04	10:05
Mercury, TCLP	< 0.0100	mg/l	9951	7/23/04	13:46
Selenium, TCLP	< 0.100	mg/l	9950	7/23/04	10:05
Silver, TCLP	< 0.100	mg/l	9950	7/23/04	10:05
MISC PARAMETERS					
Reactive Cyanide	< 50.0	mg/kg	652	7/21/04	19:30
Reactive Sulfide	< 100.	mg/kg	1619	7/23/04	16:40

Project QC continued . . .

TestAmerica
ANALYTICAL TESTING CORPORATION
2960 Foster Creighton Drive • Nashville, Tennessee 37204
800-765-0980 • 615-726-3404 Fax

PROJECT QUALITY CONTROL DATA
Project Number: 2623
Project Name: HOLLOMAN AFB
Page: 10
Laboratory Receipt Date: 7/20/04

HMX	< 0.00010	mg/l	4818	7/28/04	18:03
RDX	< 0.00010	mg/l	4818	7/28/04	18:03
1,3,5-TNB	< 0.00010	mg/l	4818	7/28/04	18:03
1,3-DNB	< 0.00010	mg/l	4818	7/28/04	18:03
Tetryl	< 0.00010	mg/l	4818	7/28/04	18:03
NB	< 0.00010	mg/l	4818	7/28/04	18:03
2,4,6-TNT	< 0.00010	mg/l	4818	7/28/04	18:03
4-Am-DNT	< 0.00010	mg/l	4818	7/28/04	18:03
2-Am-DNT	< 0.00010	mg/l	4818	7/28/04	18:03
2,6-DNT	< 0.00010	mg/l	4818	7/28/04	18:03
2,4-DNT	< 0.00010	mg/l	4818	7/28/04	18:03
2-NT	< 0.00010	mg/l	4818	7/28/04	18:03
4-NT	< 0.00010	mg/l	4818	7/28/04	18:03
3-NT	< 0.00010	mg/l	4818	7/28/04	18:03

= Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 382930

www.testamericainc.com
TestAmerica Analytical Testing Corporation | TestAmerica Drilling Corporation | TestAmerica Air Emission Corporation

ENVIRONMENTAL SERVICES, L.L.C.

Federal EPA ID: TXD000838896
State EPA ID: 50212-001
Highway 73
Port Arthur, TX 77643
(409) 736-2821

DRMO-HOLLOMAN AIR FORCE BASE
ATTN: MANIFEST SECTION
NM6572124422
241 ARKANSAS AVE BLDG 112
HOLLOMAN AFB, NM 88330-7703

CERTIFICATE OF DESTRUCTION

Onyx Environmental Services, L.L.C. has received waste material from DRMO-HOLLOMAN AIR FORCE BASE on 8/10/2004 as described on [State Manifest or Uniform] Hazardous Waste Manifest number 0002862213.

Sequence 1

Profile Number: 671548
Onyx Tracking ID: 576587-01

Onyx Unit ID	Treatment Date	Date CD Was Issued
1	8/23/2004	8/24/2004

Sequence 2

Profile Number: 671550
Onyx Tracking ID: 576587-02

Onyx Unit ID	Treatment Date	Date CD Was Issued
1	8/31/2004	9/1/2004

Sequence 3

Profile Number: 671549
Onyx Tracking ID: 576587-03

Onyx Unit ID	Treatment Date	Date CD Was Issued
1	8/23/2004	8/24/2004

I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits, and licenses on the date listed above.

Melvin Stallworth

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION
P.O. Box 13087
Austin, Texas 78711-3087

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

576581239, 4036 [redacted]

Form approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. N.M.R.5.7.2.1.2.4.4.2 — Manifest Document No. 0.8.0.0.8
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: HOLLOMAN AIRFORCE BASE, 49TH CES/CEV, 550 TABOSA AVENUE, HOLLOMAN AIRFORCE BASE, NM 88330
4. Generator's Phone (505) 572-5395

A. State Manifest Document Number: 02862213
B. State Generator's ID

5. Transporter 1 Company Name: TRI-STATE MOTOR TRANSIT CO
6. US EPA ID Number: M.D.R.0.0.5.0.5.3.4.7
C. State Transporter's ID
D. Transporter's Phone (800) 568-2435

7. Transporter 2 Company Name: ONYX Environmental Serv LLC
8. US EPA ID Number: NJD.0.8.0.6.3.1.3.6.9
E. State Transporter's ID 84594
F. Transporter's Phone 973-347-7111

9. Designated Facility Name and Site Address: ONYX ENVIRONMENTAL SERVICES, HWY 73 3.5 MILES WEST OF TAYLOR BAYOU, PORT ARTHUR, TX 77640
10. US EPA ID Number: T.X.D.0.0.0.8.3.8.8.9.6
G. State Facility's ID
H. Facility's Phone (409) 736-2021

11A. HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
X	RQ, WASTE TOXIC, LIQUIDS, ORGANIC, N.O.S., (PHOSGENE, CHLOROFORM/CHLOROPICRIN), 6.1, UN2810, PGIII, ERG#153, #671548	0.0.1	DM	0.0.0.5.5	G	P095, D022
X	RQ, WASTE TOXIC, LIQUIDS, ORGANIC, N.O.S., (CHLOROFORM), 6.1, UN2810, PGIII, ERG#153, #671550	0.0.1	DM	0.0.0.5.5	G	D022
	NON DOT/NON RCRA 3X MATERIAL, #671549	0.0.1	DM	0.0.0.0.1	G	N/A
	d [illegible] 824					

J. Additional Descriptions for Materials Listed Above
A: 671548
B: 671550
C: 671549
D:

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
24 HOUR EMERGENCY CONTACT: DAVID SCRUGGS 505-572-5395

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, packaged, marked, and labelled/placarded, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: David Scruggs — Signature: [signature] — Month Day Year: 08 04 04

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: TOY HARRIS — Signature: Toy Harris — Date: Month Day Year 08 04 04

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: James A Albus — Signature: James A Albus — Date: Month Day Year 08 04 04

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19
Printed/Typed Name: Theresa Marthiljohni — Signature: Theresa Marthiljohni — Date: Month Day Year 08 10 04

TNRCC-0311 (Rev. 07/01/97) White - original Pink-TSD Facility Yellow-Transporter Green-Generator's first copy

APPENDIX G
QUALITY CONTROL/QUALITY ASSURANCE DOCUMENTATION

APPENDIX G1
QC INSPECTION FORMS

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 12 MAY 04 REPORT NUMBER 1

PROJECT & LOCATION 2623 DP-64

WEATHER Clear TEMPERATURE RANGE 61-87 WIND

TIME ON SITE 0530

SUMMARY OF SITE ACTIVITIES Conducted DA Pre Ops

LEVEL OF HEALTH & SAFETY PROTECTION Level D Modified (Simulated)

INSTRUMENTATION USED PGM-50 PID/CGI
DATA RAM

CALIBRATION(S) PERFORMED PGM-50, Data Ram

INSTRUMENT PROBLEMS/REMEDIES PGM-50 taking long time to clean itself out
Will obtain a Thermo Environmental 580B and a new CGI

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [signature]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL DA Pre OP

DATE: 12 MAY 04	**PROJECT:** 2623 Area DP-64
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Jerry Krieger
MAG TYPE USED: N/A	**MAG SETTING USED:** N/A

AREA/ITEMS QC'D		TEAM	SAT	UNSAT
Proper work attire (PPE)		1/2	X/X	
Morning Magnetometer check	N/A			
Vehicle condition		1/2	X/X	
Equipment condition			X	
Emergency equipment, first aid kit, burn kit, fire ext.			X	
Proper grid layout	N/A			
Proper search techniques	N/A			
Proper use of grubbing equipment	N/A			
Proper tamping techniques, demo shot	N/A			
Team leaders daily paper work			X	
Office paper work			X	
Mapping and UXO data	N/A			
Field office, inside			X	
Field office grounds			X	

QCS SIGNATURE: Jerry Krieger

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 13MAY04 REPORT NUMBER 2

PROJECT & LOCATION 2623 DP-64

WEATHER Clear TEMPERATURE RANGE 61°-85° WIND

TIME ON SITE 0515

SUMMARY OF SITE ACTIVITIES Training

LEVEL OF HEALTH & SAFETY PROTECTION Level D Modified (Not Worn)

INSTRUMENTATION USED PGM-50 PID/CGI DATA RAM

CALIBRATION(S) PERFORMED PGM-50, Data Ram

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [signature]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATA ENGINEERING
DAILY QC JOURNAL

DATE: 3MAY 04	**PROJECT:** 2623 Area DP-64
SUXOS: Paul Betcel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Jerry Krieger
MAG TYPE USED: N/A	**MAG SETTING USED:** N/A

AREA/ITEMS QC'D	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE) Simulated	1/2	+/+	
Morning Magnetometer check N/A			
Vehicle condition	1/2	+/+	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout N/A			
Proper search techniques N/A			
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work	1/2	+/+	
Office paper work		X	
Mapping and UXO data N/A			
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: Jerry Krieger

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 14MAY04 REPORT NUMBER 3

PROJECT & LOCATION 2623 DP-64

WEATHER Clear TEMPERATURE RANGE 46°- 84° WIND

TIME ON SITE 0520

SUMMARY OF SITE ACTIVITIES Training

LEVEL OF HEALTH & SAFETY PROTECTION Level D Modified (Not Worn)

INSTRUMENTATION USED OVM 580B PID, Data RAM, Neotronics Impact Pro GCI

CALIBRATION(S) PERFORMED OVM 580B PID, GCI

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [signature]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATA ENGINEERING
DAILY QC JOURNAL

DATE: 14MAY04	**PROJECT:** DP-64 2623
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Jerry Krieger
MAG TYPE USED: N/A	**MAG SETTING USED:** N/A

AREA/ITEMS QC'D		TEAM	SAT	UNSAT
Proper work attire (PPE) Simulated		1/2	X/X	
Morning Magnetometer check	N/A			
Vehicle condition		1/2	X/X	
Equipment condition			X	
Emergency equipment, first aid kit, burn kit, fire ext.			X	
Proper grid layout	N/A			
Proper search techniques	N/A			
Proper use of grubbing equipment	N/A			
Proper tamping techniques, demo shot	N/A			
Team leaders daily paper work		1/2	X/X	
Office paper work			X	
Mapping and UXO data	N/A			
Field office, inside			X	
Field office grounds			X	

QCS SIGNATURE: Jerry Krieger

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 19 MAY 04 REPORT NUMBER 4

PROJECT & LOCATION 2623 DP-64

WEATHER clear TEMPERATURE RANGE 69-94° WIND

TIME ON SITE 0510

SUMMARY OF SITE ACTIVITIES Setting up GPO.

LEVEL OF HEALTH & SAFETY PROTECTION

INSTRUMENTATION USED MTADS EM61 Array

CALIBRATION(S) PERFORMED MTADS EM61 Array

INSTRUMENT PROBLEMS/REMEDIES ~~N/A~~ having problem with spike Test

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 17MAY 04	**PROJECT:** DP 64 2623
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Jerry Kriegel
MAG TYPE USED: Schonstedt 52CX	**MAG SETTING USED:**

AREA/ITEMS QC'D		TEAM	SAT	UNSAT
Proper work attire (PPE)		1/2	X/1	
Morning Magnetometer check			X	
Vehicle condition		X	X	
Equipment condition		X	X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	X	
Proper grid layout	N/A			
Proper search techniques	N/A			
Proper use of grubbing equipment	N/A			
Proper tamping techniques, demo shot	N/A			
Team leaders daily paper work		1/2	X/1	
Office paper work			X	
Mapping and UXO data	N/A			
Field office, inside			X	
Field office grounds			X	

QCS SIGNATURE: Jerry Kriegel

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 18MAY04 REPORT NUMBER 5

PROJECT & LOCATION 2623 DP264

WEATHER clear TEMPERATURE RANGE 61-96 WIND 15MPH

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Cleared anomalies in GPO, Set corners and 100' marks with surveyors

LEVEL OF HEALTH & SAFETY PROTECTION Level D

INSTRUMENTATION USED Schonstedt 52CX

CALIBRATION(S) PERFORMED N/A

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 18 MAY 04	**PROJECT:** 2623 DP64
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farner	**QCS:** Jerry Krieger
MAG TYPE USED: Schonstedt 52CX	**MAG SETTING USED:**

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)	1/2	+/+	
Morning Magnetometer check	QC	+	
Vehicle condition	1/2	+/+	
Equipment condition	+	+	
Emergency equipment, first aid kit, burn kit, fire ext.		+	
Proper grid layout	Surveyors	+	
Proper search techniques N/A			
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		+	
Office paper work		+	
Mapping and UXO data N/A			
Field office, inside		+	
Field office grounds		+	

QCS SIGNATURE: Jerry Krieger

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 19 MAY 04 REPORT NUMBER 6

PROJECT & LOCATION 2623 DP64

WEATHER Clear TEMPERATURE RANGE 61-96 WIND 15MPH

TIME ON SITE

SUMMARY OF SITE ACTIVITIES Establish GPO

LEVEL OF HEALTH & SAFETY PROTECTION Level D

INSTRUMENTATION USED Schonstedt 52CX

CALIBRATION(S) PERFORMED N/A

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 20 MAY 04 REPORT NUMBER 7

PROJECT & LOCATION DP 64 2623

WEATHER clear TEMPERATURE RANGE 68-94° WIND 15MPH

TIME ON SITE 0510

SUMMARY OF SITE ACTIVITIES

LEVEL OF HEALTH & SAFETY PROTECTION Level D

INSTRUMENTATION USED Schonstedt 52CX

CALIBRATION(S) PERFORMED N/A

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 20 MAY 04		**PROJECT:** DP 64 2623	
SUXOS: Paul Betchel		**PM:** Larry Hodgins	
SSO: Terry Farmer		**QCS:** Jerry Krieger	
MAG TYPE USED: Schonstedt 52CX		**MAG SETTING USED:**	
AREA/ITEMS QC'D		**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)		1/2	X/X	
Morning Magnetometer check			X	
Vehicle condition		X	X	
Equipment condition		X	X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	X	
Proper grid layout	N/A			
Proper search techniques	N/A			
Proper use of grubbing equipment	N/A			
Proper tamping techniques, demo shot	N/A			
Team leaders daily paper work		X	X	
Office paper work		X	X	
Mapping and UXO data	N/A			
Field office, inside		X	X	
Field office grounds		X	X	
QCS SIGNATURE: Jerry Krieger				

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 25 MAY 04 REPORT NUMBER 8

PROJECT & LOCATION DP 64 2623

WEATHER clear TEMPERATURE RANGE 70-91° WIND 15 MPH

TIME ON SITE 0500

SUMMARY OF SITE ACTIVITIES Down Range OPS, Packaging, Sampling

LEVEL OF HEALTH & SAFETY PROTECTION Level C, Level D modified, Level D

INSTRUMENTATION USED OVM 580 PID, Impact Pro GCI

CALIBRATION(S) PERFORMED OVM 580 PID, Impact Pro GCI

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED DP 6401 and DP 6402 Soil Sample collected and analyzed for ABP, Mustard and Lewisite

SAMPLE COLLECTION METHOD(S) Surface Soil Composite sample collected with stainless steel spoon & mixing bowl

QUALITY CONTROL SAMPLES*

ADDITIONAL REMARKS ~~ARTP~~ RTAP overheated ECBC cannot continue head space on sample RTAP operational samples clean. Shipped to Lab

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 25 MAY 04	**PROJECT:** DP 64 2623
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Jerry Krieger
MAG TYPE USED:	**MAG SETTING USED:**

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)	1/2	+/+	
Morning Magnetometer check N/A			
Vehicle condition	+	+	
Equipment condition	+	+	
Emergency equipment, first aid kit, burn kit, fire ext.	+	+	
Proper grid layout N/A			
Proper search techniques			
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work	1/2	+/+	
Office paper work		+	
Mapping and UXO data			
Field office, inside		+	
Field office grounds		+	

QCS SIGNATURE: Jerry Krieger

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 26 MAY 04 REPORT NUMBER 9

PROJECT & LOCATION DP 64 2623

WEATHER Clear TEMPERATURE RANGE 69-90° WIND 15 MPH

TIME ON SITE ~~Clear~~ 0505

SUMMARY OF SITE ACTIVITIES Remove inner fence & snow fence, put in grids

LEVEL OF HEALTH & SAFETY PROTECTION Level D with mask on hip

INSTRUMENTATION USED N/A

CALIBRATION(S) PERFORMED

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 26 MAY 04	**PROJECT:** DP 64 2623
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Jerry Kriegel
MAG TYPE USED:	**MAG SETTING USED:**

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE) Level D w Sling Mask	1/2	1/1	
Morning Magnetometer check N/A			
Vehicle condition	1/2	1/1	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.	1/2	1/1	
Proper grid layout			
Proper search techniques N/A			
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data N/A			
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: Jerry Kriegel

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 28 MAY 04 REPORT NUMBER 10

PROJECT & LOCATION DP 64 2623

WEATHER Clear TEMPERATURE RANGE 60-93 WIND 11

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Grubbing

LEVEL OF HEALTH & SAFETY PROTECTION Level D with mask on hip

INSTRUMENTATION USED N/A Mini Cams

CALIBRATION(S) PERFORMED

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: Jay Kirby

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATA ENGINEERING, P.A.

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DAILY QC JOURNAL

DATE: 28 MAY 04	**PROJECT:** DP 64 2623
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Jerry Krieger
MAG TYPE USED:	**MAG SETTING USED:**

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE) Level D w Sling Mask	1 / 2	X / X	
Morning Magnetometer check N/A			
Vehicle condition	1 / 2	X / X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques N/A			
Proper use of grubbing equipment		X	
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data N/A			
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: J Krieger

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SOIL & SEDIMENT SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: Holloman AFB
Project No.: 2623

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

Sample ID No.: DP 6403
Sample Location: Glass Vials
Sampled By:
C.O.C. No.:

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

GRAB SAMPLE DATA:

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

COMPOSITE SAMPLE DATA:

	Soil Boring	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 5/28/04		4-6"	TAN	SAND
Time: 0735				
Method:				
Monitor Readings (Range in ppm):				

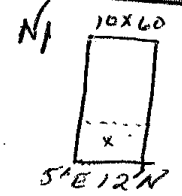
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
ABP	1		
Mustard (M)	1		
Lewisite (L)	1		

OBSERVATIONS / NOTES:

Collected Soil composite Sample from AREA where Glass Vials were found. Vials wer intact.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
		Matt Heldreth

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 2 JUN 04 REPORT NUMBER 11

PROJECT & LOCATION DP 64 2623

WEATHER Clear TEMPERATURE RANGE 64-102 WIND 10 MPH

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Surface Clearance & Completed QC of A01, A02, A03, A04, B01, B02, B03, and B04

LEVEL OF HEALTH & SAFETY PROTECTION Level D w Sling Mask

INSTRUMENTATION USED Minicams, Schonstedts

CALIBRATION(S) PERFORMED Minicams

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: Jerry Kelley

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DATE: 2JUN04	**PROJECT:** DP64
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Jerry Krieger
MAG TYPE USED: Schonstedt 52CX	**MAG SETTING USED:**

AREA/ITEMS QC'D	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE) Level D w Sling Mask		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: Jerry Krieger

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 3 JUN 04 REPORT NUMBER 12

PROJECT & LOCATION DP64 2623

WEATHER Clear TEMPERATURE RANGE 74-94 WIND 19

TIME ON SITE 0500

SUMMARY OF SITE ACTIVITIES Surface Clearance completed QC of C01, C02, C03, C04, D01, D02, D03, D04. E01, E02, E03, E04, F01, F02, F03, F04

LEVEL OF HEALTH & SAFETY PROTECTION level D w/ Sling MASK

INSTRUMENTATION USED Mini CAMS, Schonstedts

CALIBRATION(S) PERFORMED Mini CAMS

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS Air Force EOD Removed (17) Electric Blasting Caps, (3) M69 Incendiary Bomblets, (2) Smoke pots.

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DATE: 3 JUN 04	**PROJECT:** DP64
SUXOS: PAUL Betchel	**PM:** LARRY Hudgins
SSO: TERRY FARMER	**QCS:** STEVEN BURTHANS
MAG TYPE USED: Schonstedt 52cx	**MAG SETTING USED:**

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 4 Jun 04 REPORT NUMBER 13

PROJECT & LOCATION DP64 2623

WEATHER Clear TEMPERATURE RANGE 63-95 WIND 14

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Fence Post - Removal. Surface Clearance

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/ Sling Mask

INSTRUMENTATION USED Mini Cams, Schmidts

CALIBRATION(S) PERFORMED Mini Cams

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED NA

SAMPLE COLLECTION METHOD(S) NA

QUALITY CONTROL SAMPLES* NA

ADDITIONAL REMARKS Heavy equip used - Remove Fence Posts

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DATE: 4 Jun 04	**PROJECT:** DP 64
SUXOS: Paul Betchel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Steven Burkhas
MAG TYPE USED: Schonstedt 5204	**MAG SETTING USED:**

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment		X	
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work N/A			
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	
		X	
		X	
QCS SIGNATURE:			

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 7 JUN 04 REPORT NUMBER 14

PROJECT & LOCATION DP64-2623

WEATHER Clear TEMPERATURE RANGE 80-100 WIND 1.6 MT

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Fence Post - Fence wire (BARB) Removal, OE Scrap Sorted

LEVEL OF HEALTH & SAFETY PROTECTION level D/w Sling MASK

INSTRUMENTATION USED Mi. N. Cards

CALIBRATION(S) PERFORMED Mi. Cards

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DATE: 7 JUN 04	**PROJECT:** DP 64
SUXOS: PAUL Bechtel	**PM:** LARRY Hudgins
SSO: TERRY FARMER	**QCS:** Steve Burthrow
MAG TYPE USED:	**MAG SETTING USED:**

AREA/ITEMS QC'D	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment		X	
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work N/A			
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	
		X	
QCS SIGNATURE:			

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 06/08/04 REPORT NUMBER 15

PROJECT & LOCATION DP 64

WEATHER Clear TEMPERATURE RANGE 78 - 98 WIND 12

TIME ON SITE 0510

SUMMARY OF SITE ACTIVITIES MTADS BLACKHAWK on site, Checkout conducted, STARTED GEO on DP 64

LEVEL OF HEALTH & SAFETY PROTECTION Level W/Sluvg MASK

INSTRUMENTATION USED MINI CAMS, MTADS

CALIBRATION(S) PERFORMED MINI CAMS

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS Approx 75% of DP 64 Area done by MTADS / BLACKHAWK

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DATE: 06/08/04	**PROJECT:** DP64
SUXOS: Paul Bechtel	**PM:** Larry Hodgins
SSO: Turk Farmer	**QCS:** Steve Burtons
MAG TYPE USED:	**MAG SETTING USED:**

AREA/ITEMS QC'D	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment		X	
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work N/A			
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	
		X	
QCS SIGNATURE:			

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 06-09-04 REPORT NUMBER 16

PROJECT & LOCATION DP 64

WEATHER Clear TEMPERATURE RANGE 70°-97° WIND 5-10

TIME ON SITE 0510

SUMMARY OF SITE ACTIVITIES Geo/ Black Hawk continue with Geo physical Survey / Completed

LEVEL OF HEALTH & SAFETY PROTECTION Level D W/MASK Slung

INSTRUMENTATION USED MINI CAMS, MTADS

CALIBRATION(S) PERFORMED MINI CAMS

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DATE: 06-09-04	**PROJECT:** DP 64
SUXOS: Paul Bechtel	**PM:** Larry Hudgins
SSO: Terry Farmer	**QCS:** Steve Burkhart
MAG TYPE USED:	**MAG SETTING USED:**

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: [signature]

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 06-10-04 REPORT NUMBER 17

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 78-98 WIND 12 MPH

TIME ON SITE 0510

SUMMARY OF SITE ACTIVITIES Geo/ Black Hawk Completed Reacqusition of Anomalies AT DP64

LEVEL OF HEALTH & SAFETY PROTECTION Level D/ W mask Sling

INSTRUMENTATION USED Mini CAMS Trimble

CALIBRATION(S) PERFORMED Mini CAMS

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS Black Hawk Complete in Area DP64

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DAILY QC JOURNAL

DATE: 06-10-04	**PROJECT:** DP 64
SUXOS: PAUL BECHTAL	**PM:** LARRY Hudgins
SSO: TERRY FARMER	**QCS:** STEVE BURTHAUS
MAG TYPE USED: Schonstedt	**MAG SETTING USED:**

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: [signature]

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 06/14/04 REPORT NUMBER 18

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 63°- 102° WIND 7 mph

TIME ON SITE 0510

SUMMARY OF SITE ACTIVITIES Intrusive Operations Grid A01 completed - QC/QA PASS 948 issued.

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/mask Slung

INSTRUMENTATION USED Mini CAMS DAMS, PID Dust meter, Back Hoe, Schonstedt.

CALIBRATION(S) PERFORMED Mini CAMS, PID

INSTRUMENT PROBLEMS/REMEDIES Mini CAMS problem 2-3 hr delay - Problem Corrected.

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS 9 Digs - In A01 - All Construction debris

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DAILY QC JOURNAL

DATE: 06/14/04		**PROJECT:** DP64	
SUXOS: PAUL Bechtel		**PM:** LARRY Hudgins	
SSO: TERRY FARMER		**QCS:** STEVEN BURKHANS	
MAG TYPE USED: Schonstedt		**MAG SETTING USED:** 3-4	
AREA/ITEMS QC'D	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	
QCS SIGNATURE:			

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 06/15/04 REPORT NUMBER 19

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 68°-102° WIND 12 mph

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive Operations GRID A02, B02, B01, A03, B03, A04 Completed QC/QA PASS

LEVEL OF HEALTH & SAFETY PROTECTION Level D W/MASK Slung

INSTRUMENTATION USED Mini cams, DAMS, PID, DUST Meter, Backhoe, Schlumberger

CALIBRATION(S) PERFORMED Mini cams, PID

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS ALL Construction Debris - GRID B04 - NO Anomalies. (Complete).

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DAILY QC JOURNAL

DATE: 06/15/04	**PROJECT:** DP64
SUXOS: PAUL Bedtel	**PM:** LARRY Hudgins
SSO: TERRY Farmer	**QCS:** STEVE BURTHANS
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 06/16/04 REPORT NUMBER 20

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 68-102° WIND 18 mph

TIME ON SITE 0510

SUMMARY OF SITE ACTIVITIES Intrusive Operations
GRID C01 complete QC/QA PASS
IN GRID C02, 58, 52, 47, 42, 37, 38, 48, 50, 55, 62, 69, 61, 65, 67

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/Sling mask

INSTRUMENTATION USED Mini cams, DAMS, Schousted, backhoe
PID

CALIBRATION(S) PERFORMED PID, mini cams

INSTRUMENT PROBLEMS/REMEDIES Mini cams Down 1½ Hour

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS Flags in Grid C02 - listed - QC/QA PASS.
Down Time - Mini cams - Equip failure.

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 6/16/04	**PROJECT:** DP64 2623
SUXOS: PAUL Bechtel	**PM:** LARRY Hudgins
SSO: TERRY FARMER	**QCS:** STEVEN BURTHANS
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D GRIDS B03, B04, C01-C04	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 06/17/04 REPORT NUMBER 21

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 73°- 103° WIND Gusts - 35 mph

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive operations Grids C02, C03, C04, D04, D03 - Completed QC/QA PASSED! (D03 no anomalies)

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/ sling mask

INSTRUMENTATION USED Mini CAMS, DAMS, Schonstedt, PID

CALIBRATION(S) PERFORMED Mini CAMS, PID

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS None

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DAILY QC JOURNAL

DATE: 6/17/04	**PROJECT:** 2623 DP64
SUXOS: PAUL Bechtel	**PM:** LARRY Hudgins
SSO: TERRY FARMER	**QCS:** STEVEN BURTHAS
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: [signature]

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6/18/04 REPORT NUMBER 22

PROJECT & LOCATION DP64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 80 - 99 WIND 16 From S

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive operations Grids D01, D02, E01 Completed QC/QA Passed

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/Sling mask

INSTRUMENTATION USED Mini CAMS, DAMS, PID, Schonstedt.

CALIBRATION(S) PERFORMED Mini CAMS, PID

INSTRUMENT PROBLEMS/REMEDIES Mini CAMS - Fuel from JET Fume - Delay 30 min

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS N/A

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING

DAILY QC JOURNAL

DATE: 6/18/04	PROJECT: 2623 DP64
SUXOS: Paul Bechtel	PM: Larry Hudgins
SSO: Terry Farmer	QCS: Steve Burtons
MAG TYPE USED: Schonstedt	MAG SETTING USED: 3-4

AREA/ITEMS QC'D GRIDS D01, D02, E01	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds			

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6-21-04 REPORT NUMBER 23

PROJECT & LOCATION DP64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 68-97 WIND 3mph S

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive Activity - 1050 Am
Team uncovers possible ordnance (unknown) w/ initiators
Team pulled by Corps Representative - AFB EOD called.

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/ sling mask

INSTRUMENTATION USED mini cams, DAMS, Schonstedt, PID
dust monitor

CALIBRATION(S) PERFORMED mini cams PID

INSTRUMENT PROBLEMS/REMEDIES None

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A.

ADDITIONAL REMARKS Slow Start due to paperwork requirements
COE hold up on Safety (swim) personnel.

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 6-21-04	**PROJECT:** DP64 2623
SUXOS: PAUL Bechtel	**PM:** LARRY HUDGINS
SSO: WALTER HILDRETH	**QCS:** STEVEN BURTHANS
MAG TYPE USED: Schewstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6/22/04 REPORT NUMBER 24

PROJECT & LOCATION DP64 Holloman AFB

WEATHER Clear - 86° TEMPERATURE RANGE 68 - 86 WIND 6 mpH

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES INTRUSIVE - GRIDS F01 F02, F03 E02 Completed and QC/QA. GRID F04 NO Anomalies - also completed.

LEVEL OF HEALTH & SAFETY PROTECTION level D W/ Sling MASK

INSTRUMENTATION USED MINI CAMS, DAMS, PID, Schonstedt dust monitor

CALIBRATION(S) PERFORMED MINI CAMS, PID

INSTRUMENT PROBLEMS/REMEDIES MINI CAMS, Delay 40 minutes

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS REMAINING E03, E04 - 10'X60'

SIGNATURE: [signature]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

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DAILY QC JOURNAL

DATE: 6/22/04	**PROJECT:** DP64 2623
SUXOS: Paul Bechtel	**PM:** LARRY Hudgins
SSO: Walter Hildreth	**QCS:** STEVE BURTHANS
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6/23/04 REPORT NUMBER 25

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 63-88 WIND

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive - E04 Completed QC/QA passed. Dig # 113 114 103 137, 138, 136, 109 in Grid E03 QC/QA passed.

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/Sling mask

INSTRUMENTATION USED Mini Cams, Dams, PID, Dust Monitor Schonstedt.

CALIBRATION(S) PERFORMED Mini Cams, PID

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS Dig #32 B02, Dig #99 E03, 10'X60' Area Remain to be done.

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

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DAILY QC JOURNAL

DATE: 6/23/04	**PROJECT:** DP64 2623
SUXOS: Paul Bechtel	**PM:** Larry Hudgins
SSO: Walter Hildreth	**QCS:** Steven Burtans
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: [signature]

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6/24/04 REPORT NUMBER 26

PROJECT & LOCATION DP64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 69 90° WIND 6 SW

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive - Completed Dig #32 QC/QA passed. Started 10'x60' area. (2) ampoules found.

LEVEL OF HEALTH & SAFETY PROTECTION level D w/ Sling mask until Ampoules were located moved to level C.

INSTRUMENTATION USED Mini cams, PID, Dust monitor, Schmostedt DAMS

CALIBRATION(S) PERFORMED Mini cams, PID

INSTRUMENT PROBLEMS/REMEDIES None

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS Items to be Packaged by TEU in the A.M. - VOC Corps of Engineer Representative

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

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DAILY QC JOURNAL

DATE: 6/24/04	**PROJECT:** 2623
SUXOS: Paul Sechtel	**PM:** Larry Hudgins
SSO: Walter Hildreth	**QCS:** Steve Burthams
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment 60'X10' area.		X	
Proper tamping techniques, demo shot N/A	—	—	
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6/25/04 REPORT NUMBER 27

PROJECT & LOCATION DP64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 68-91° WIND NE 5MPH

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive Operations. - TEU packaged up (2) Ampoules and put in IHF. Retrieved down range Equipment, DAMS, mini CAMS, & RTAP.

LEVEL OF HEALTH & SAFETY PROTECTION Tyvek w/mask Slung for initial set up Voc Corps Rep./ Level C Tea + Down Range.

INSTRUMENTATION USED DAMS, MINI CAMS

CALIBRATION(S) PERFORMED Mini CAMS

INSTRUMENT PROBLEMS/REMEDIES Mini CAMS went down - restarted. Getting new Generator for Back up.

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS N/A

SIGNATURE: [signature]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DAILY QC JOURNAL

DATE: 6/25/53	**PROJECT:** 2623
SUXOS: Paul Bechtel	**PM:** Larry Hudgins
SSO: Walter Hildreth	**QCS:** Steve Burthans
MAG TYPE USED: Schorstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: [signature]

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6/28/04 REPORT NUMBER 28

PROJECT & LOCATION DP 64 / Holloman AFB

WEATHER Poss-Thunder Storm TEMPERATURE RANGE 63-86° WIND SE 3-5

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES INTRUSIVE OPERATIONS - SOIL SAMPLE TAKEN - Shipped TO EdgeWood. Continued Intrusive Down range OPS.

LEVEL OF HEALTH & SAFETY PROTECTION Level C / SOIL SAMPLE Level D/ W/ MASK Stby

INSTRUMENTATION USED PID - MINI CAMS, DAMS, DUST MONITOR,

CALIBRATION(S) PERFORMED PID, MINI CAMS

INSTRUMENT PROBLEMS/REMEDIES N/A

SAMPLES COLLECTED ABP, Mustard (H), Lewisite (L) DP 6403

SAMPLE COLLECTION METHOD(S) Composite SAMPLE

QUALITY CONTROL SAMPLES* Sample NOT HTRW

ADDITIONAL REMARKS ATTACHED - Soil & Sediment Sample Log Sheet -

SIGNATURE: [signature]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 6/28/04	**PROJECT:** DP 64
SUXOS: Paul Beckfel	**PM:** Casey Hudgins
SSO: WALTER Hildreth	**QCS:** Steve Burthans
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6/29/04 REPORT NUMBER 29

PROJECT & LOCATION DP 64 Holloman

WEATHER Pass T. Storms TEMPERATURE RANGE 63-89° WIND 3-5

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive Operations - 10'x60' Area - Rake Soil Removal 2" on second pass. Start 4" Lifts (North 50'x10' area)

LEVEL OF HEALTH & SAFETY PROTECTION level D / w/Sling mask

INSTRUMENTATION USED PID, Mini Cams, Dams, Dust monitor

CALIBRATION(S) PERFORMED PID, Mini Cams

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS N/A

SIGNATURE: [signature]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

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DAILY QC JOURNAL

DATE: 6-29-04	**PROJECT:** 2623
SUXOS: Paul Bechtel	**PM:** Larry Hudgins
SSO: Mike Matthews	**QCS:** Steven Burkhans
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 6/30/04 REPORT NUMBER 30

PROJECT & LOCATION DP 64 / Holloman

WEATHER Clear TEMPERATURE RANGE 63-90° WIND 10-15 SW

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive Operations - 10' X 60' Area - 4" Lifts - North End - Approx 45' Complete Started South End 2" Raking - Discovered (Remains)

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/ Sling Mask

INSTRUMENTATION USED Mini Cams PID, Dust monitor, Dams, Schonstedt.

CALIBRATION(S) PERFORMED PID Mini Cams

INSTRUMENT PROBLEMS/REMEDIES None

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS "9" more Ampoules. - Will be packaged in the AM By TEU.

SIGNATURE: [illegible]

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 6/30/04	**PROJECT:** 2623
SUXOS: Paul Bechtel	**PM:** LARRY Hudgins
SSO: Mike Matthews	**QCS:** Steven Burkhous
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 07/01/04 REPORT NUMBER 31

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 63-90° WIND 10 mph West

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES INTRUSIVE OPERATIONS - TEU PACKAGING (10) Ampules + PUT IN IHF. SOIL SAMPLE TAKEN and SENT TO EDGEWOOD.

LEVEL OF HEALTH & SAFETY PROTECTION level C Thru Packaging / Sampling Level D w/mask sling - Remainder of operations.

INSTRUMENTATION USED MINI CAMS, DAMS

CALIBRATION(S) PERFORMED PID, MINI CAMS

INSTRUMENT PROBLEMS/REMEDIES None

SAMPLES COLLECTED Composite - Soil (3) Jars
1 Head Space (2) ship.

SAMPLE COLLECTION METHOD(S) Composite

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS Sample TO Fed-ex - 7-1-04.

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 7-1-04	**PROJECT:** 2623
SUXOS: PAUL Bechtel	**PM:** LARRY Hudgins
SSO: MIKE MATHEWS	**QCS:** STEVE BURTHANS
MAG TYPE USED:	**MAG SETTING USED:**

AREA/ITEMS QC'D		**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)			X	
Morning Magnetometer check			X	
Vehicle condition			X	
Equipment condition			X	
Emergency equipment, first aid kit, burn kit, fire ext.			X	
Proper grid layout			X	
Proper search techniques			X	
Proper use of grubbing equipment	N/A			
Proper tamping techniques, demo shot	N/A			
Team leaders daily paper work			X	
Office paper work			X	
Mapping and UXO data			X	
Field office, inside			X	
Field office grounds			X	

QCS SIGNATURE:

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SOIL & SEDIMENT SAMPLE LOG SHEET

Page 1 of 1

Project Site Name: Holloman AFB
Project No.: 2623

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

Sample ID No.: AP6404
Sample Location: Glass Vials
Sampled By: V. Valdez
C.O.C. No.:

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 7/1/04			
Time:			
Method:			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

	Soil Boring	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 7/1/04				
Time: 1100		6-8"	Tan	Sand
Method:				
Monitor Readings (Range in ppm):				

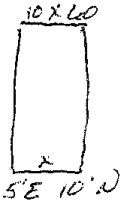
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
ABP	1		
Mustard (H)	1		
Lewisite (L)	1		

OBSERVATIONS / NOTES:

Collected Soil Composite Sample From Area Where intact glass ~~vials~~ vials were Located

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Michael Matthews

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 07/07/04 REPORT NUMBER 32

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 80-101° WIND 5 mph SE

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive Investigation - Dig #99 in E03 Cleared / QC QA - 2 more Ampoules found - 2 ft south of Dig #99.

LEVEL OF HEALTH & SAFETY PROTECTION Level D w/mask Slung

INSTRUMENTATION USED PID mini cams DAMS Dust Monitor, Schonstedts

CALIBRATION(S) PERFORMED PID, mini cams

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS No Anomalie. Indicated at the Ampoule Location. ALL Anomalies Completed.

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 07/07/04	**PROJECT:** 2623
SUXOS: Paul Bechtel	**PM:** Larry Hudgins
SSO: Mike Matthews	**QCS:** Steve Burkhans
MAG TYPE USED: Schonstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE:

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 07/08/04 REPORT NUMBER 33

PROJECT & LOCATION DP 64 Holloman AFB

WEATHER Clear TEMPERATURE RANGE 70-98° WIND 3-5 SE

TIME ON SITE 0505

SUMMARY OF SITE ACTIVITIES Intrusive OPS - TCU Packaging (2) Ampoules, Soil Sampling. Ampoules put in DHF.

LEVEL OF HEALTH & SAFETY PROTECTION Level C

INSTRUMENTATION USED MINI CAMS, DAMS, PID

CALIBRATION(S) PERFORMED MINI CAMS, PID.

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED Composite - (2) 8oz (1) 4oz Subsurface soil / Low Concentration

SAMPLE COLLECTION METHOD(S) Composite

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE: 07/08/04	**PROJECT:** 2623
SUXOS: Paul Bechtel	**PM:** Larry Hudgins
SSO: Mike Matthews	**QCS:** Steve Burthams
MAG TYPE USED: Schorstedt	**MAG SETTING USED:** 3-4

AREA/ITEMS QC'D	TEAM	SAT	UNSAT
Proper work attire (PPE)		X	
Morning Magnetometer check		X	
Vehicle condition		X	
Equipment condition		X	
Emergency equipment, first aid kit, burn kit, fire ext.		X	
Proper grid layout		X	
Proper search techniques		X	
Proper use of grubbing equipment N/A			
Proper tamping techniques, demo shot N/A			
Team leaders daily paper work		X	
Office paper work		X	
Mapping and UXO data		X	
Field office, inside		X	
Field office grounds		X	

QCS SIGNATURE: [signature]

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SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: Holloman AFB
Project No.: 2623

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

Sample ID No.: DP6405
Sample Location: DP64
Sampled By: Valdez
C.O.C. No.:

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

GRAB SAMPLE DATA:

	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 7/8/04			
Time: 0830			
Method: Compost			
Monitor Reading (ppm):			

COMPOSITE SAMPLE DATA:

Date: 7/8/04	Soil Boring	Depth Interval	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0830		6-12"	Tan	Sand
Method: Compost				
Monitor Readings (Range in ppm):				

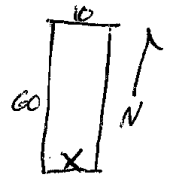
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other

OBSERVATIONS / NOTES:

2ea 8oz. Jars to EPBC Edgewood

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Daily Quality Control Report

DAILY QUALITY CONTROL REPORT

JOB NUMBER 2623 DATE 07/09/04 REPORT NUMBER 00034

PROJECT & LOCATION DP 64 Holloman AFB NM

WEATHER Clear TEMPERATURE RANGE 68-98 degrees WIND 7 WNW

TIME ON SITE 0430 MiniCams & UXO Escort 0530 TEU & UXO

SUMMARY OF SITE ACTIVITIES Intrusive Operations – Completed remaining 15 ft of 10' X 60' X 1' excavation Teams in Tyvec "F" with slung mask was the attire of the day

LEVEL OF HEALTH & SAFETY PROTECTION Level 'C'

INSTRUMENTATION USED Mini Cams , Pid, Dust Monitor

CALIBRATION(S) PERFORMED Mini Cams , Pid, Dust Monitor

INSTRUMENT PROBLEMS/REMEDIES

SAMPLES COLLECTED N/A

SAMPLE COLLECTION METHOD(S) N/A

QUALITY CONTROL SAMPLES* N/A

ADDITIONAL REMARKS

SIGNATURE:

*INDICATE SAMPLE MEDIA: GROUNDWATER, SURFACE WATER, SOIL OR SEDIMENT; SAMPLE TYPE: COMPOSITE, GRAB, DUPLICATE, RINSATE; AND SAMPLE I.D. NUMBERS

ZAPATAENGINEERING, P.A.

ZAPATAENGINEERING
DAILY QC JOURNAL

DATE:9 July 04	**PROJECT:Holloman DP-64**
SUXOS: Paul Becthel	**PM:Larry Hudgins**
SSO: Mike Mathews	**QCS: Chris E. Brown**
MAG TYPE USED:	**MAG SETTING USED:**

AREA/ITEMS QC'D	**TEAM**	**SAT**	**UNSAT**
Proper work attire (PPE)		**X**	
Morning Magnetometer check		**X**	
Vehicle condition		**X**	
Equipment condition		**X**	
Emergency equipment, first aid kit, burn kit, fire ext.		**X**	
Proper grid layout		**X**	
Proper search techniques		**X**	
Proper use of grubbing equipment		**N/A**	
Proper tamping techniques, demo shot		**N/A**	
Team leaders daily paper work		**X**	
Office paper work		**X**	
Mapping and UXO data		**N/A**	
Field office, inside		**X**	
Field office grounds		**X**	

QCS SIGNATURE:

APPENDIX G2
QA INSPECTION FORMS (CEHNC FORM 948)

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	14 JUN 04	1300

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	D764
DO #: 0019	HOLLOMAN AFB N.M.

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☐ Quality Control
- ☒ Other

DESCRIPTION: GRID A01 ANOMALIE #'S 005, 008, 013, 014, 018, 019, 021, 023 AND 024 AND NO OTHERS WERE CLEARED TODAY AND FOUND TO CONTAIN CONSTRUCTION debris

RED

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) 1 APR 96 **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	15 JUN 04	1330

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	DP-64 Holloman AFB N.M.
DO #: 0019	

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☐ Quality Control
- ☒ Other

DESCRIPTION: GRIDS A-02 – A-04, B-01 THRU B-03 WITH ANOMALIES #S 004, 006, 010, 015, 016, 017, 020, 022, 025, 026, 027 028, 029, 030, 031, 033, 034, AND 035 WERE CLEARED TODAY AND FOUND TO CONTAIN CONSTRUCTION DEBRIS AND NO OTHERS

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) 1 APR 96 **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	16 JUN 04	1430

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	DP64 Holloman AFB N.M.
DO #: 0019	

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☐ Quality Control
- ☒ Other

DESCRIPTION: GRID C-01 And The following ANOMALIES IN GRID C-02 WERE COMPLETED TODAY: #037, 038, 042, 047, 048, 050, 052, 055, 058, 061, 062, 064, 065, And 067 — And NO OTHERS

RLB

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED: Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) 1 APR 96 **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	~~1330~~ 17 JUN 04	1330

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	DP 64 Holloman AFB N.M.
DO #: 0019	

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☐ Quality Control
- ☒ Other

DESCRIPTION: GRID C02 ANOMALIES # 039, 045, 046, 063, 066, 069, 071, 073, 074, 075 GRID C03 ANOMALIES # 041, 043, 044, 049, 053, 054, 059, 070 GRID C04 ANOMALIES # 057, 068 GRID D04 ANOMALIES # 080, 081, 086, 093 WERE COMPLETED TO DAY. AND NO OTHERS

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED: Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) 1 APR 96 **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	18 JUN 04	1130

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	DP 64 Holloman AFB N.M.
DO #: 0019	

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☐ Quality Control
- ☒ Other

DESCRIPTION: GRID D-01 ANOMALIES #077, 079, 082, 084, 087, 088, 089, 091, 092, 094, 095, 098 GRID D-02 ANOMALIES #072, 076, 078, 083, 085, 090, 096, 097, 140, 141 GRID E-01 ANOMALIES #100, 106 WERE COMPLETED. AND NO OTHERS

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) 1 APR 96 **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	22 JUNE	1400

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	DP-64 Holloman AFB N.M.
DO #: 0019	

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☐ Quality Control
- ☒ Other

DESCRIPTION: GRID F-01 ANOMALIES #116, 120, GRID F-02 ANOMALIES #122, 123, 125, 126, GRID F-03 ANOMALIES # 117, 118, 121, 124 AND ANOMALIES # 113 AND 114 IN GRID E-03 AND GRID E02 ANOMALIES #102, 104, 105 108, 112, 142 WERE CLEARED TODAY!

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) 1 APR 96 **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	23 JUN 04	1400

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	D7-64 HOLLOMAN AFB N.M.
DO #: 0019	

SUBJECT ITEM(S)

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments

(Check all that apply):

- ☐ Quality Control
- ☒ Other

DESCRIPTION: GRID E-03 ANOMALIES #103, 109, 136, 137, 138, AND GRID #E-04 ANOMALIES #107, 110, 111, AND 139 WERE COMPLETED TODAY

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) 1 APR 96 **COPY 1 - Contractor's Representative**

APPENDIX G3
QA FAILURE REPORTS AND CORRECTIVE ACTION REPORT

All QA inspections passed. No corrective action reports required.

APPENDIX H
SUXOS DOCUMENTATION

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 12 May 04** **Day: Wednesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
	TRAINING SCENARIOS DA Pre-Operations Survey
0530	Safety Briefing vitals taken
0620	Team downrange for site prep
0710	Site supervisor's walk thru
0715	Down range Mini Cams up
0739	PDS Mini Cams up
0746	Barricades up
0752	Team 1 down range Hildreth, Sammons, Brown, Martinez Encountered Broken Glass 10 TWA on Mini Cams for Phosgene. Man trouble breathing
0755	Medics Informed
0759	Mini Cams 2nd cycle clear
0801	Patient doing fine going to monitoring tent
0807	Hospital notified (additional ambulance requested)
0810	Patient still having difficulty breathing
0816	Patient with medical personnel
0822	Patient on way to hospital
0823	30 minute work/rest cycle in effect
0846	Replacement ambulance on site
0850	Mini Cams Clear
0855	TEU downrange to clean up glass
0902	Glass Vial found downrange
0906	Under vial ground wet
0907	More glass found
0923	All debris clear and TEU team coming out
1000	TEU team 2 moving vials to MRC
1011	MRC in box
1035	Box to IHF
1046	Scenario Terminated
1100	Out Briefing given
1130	Maintenance and setup for tomorrows Training
1330	Security arrives and Site Secured.

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 13 May 04** **Day: Thursday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Safety Briefing vitals taken
0545	Team Briefed
0600	Heavy Equipment Maintenance & training on 4 inch lifts
0800	DA Out Brief passed excellent show.
1130	Team back to CP
1235	Team get meds end of day
1310	Clean up area and secure equipment
1330	Security arrives and Site Secured.

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 14 May 04** **Day: Friday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Safety Briefing vitals taken
0630	Team Downrange to service heavy Equip
0720	Team utilizing heavy equip and shaker to test dust suppression requirements
1050	Team back to CP
1130	Team inventorying PPE
1235	Team get meds end of day
1300	Clean up area and secure equipment
1330	Security arrives and Site Secured.

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 17 May 04** **Day: Monday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Safety Briefing vitals taken
0600	Performed Heavy Equipment checkout
0705	Team measuring in NOSE and FRAG radius for actual work area
0730	Marked NOSE and FRAG radius placing signs
1230	Get Mid Day Meds
1250	Area clean-up
1300	Secured equipment
1330	Security arrives and Site Secured.

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 18 May 04** **Day: Tuesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Safety Briefing vitals taken
0600	Performed Heavy Equipment checkout
0730	Team set up road to site corner.
0915	Placed sign on IHF and surrounding area. Tightened bolts on IHF fence
1230	Get Mid Day Meds
1300	Area clean-up
1310	Security arrives
1330	Site Secured.

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL

HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 19 May 04** **Day: Wednesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Safety Briefing vitals taken
0600	Performed Heavy Equipment checkout
0625	Laid out Geophysical Prove Out Area with Blackhawk
1300	Excavated 16 Hole, 2-30 ft trenches, and 1-6'x6' Square pit.
1310	Get end of Day Meds
1330	Area cleaned-up and Site Secured.

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 20 May 04** **Day: Thursday**
COE REP: David Becker		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Safety Briefing vitals taken
0545	Team briefed on site work and fence removal
0635	Did Supervisor Walk through identifying broken glass and possible full vial
0715	Dave Becker called Huntsville COE
0740	Notified Larry Hudgins, David Scruggs, Mike Winningham, Tom Zink, advised them of situation, called Alamo security advised them of armed guard
0800	requirement
1100	Requested David Scruggs call PAO
1130	Talked to Suzy McKinney and advised her of situation.
1140	Sent Wilson Walters The AHA for GEO (MTADS) to rush approval of the AHA
1300	Gave permission for Blackhawk to work Saturday if required to complete prove-out grid. Should have approval from AHA to use MTADS.
1325	David Scruggs gave permission to leave the items downrange until we are ready to properly package the items and store them.
1335	Blackhawk were advised to be done by 1330, but still continuing to work
1350	Blackhawk done for the day equipment stored. Site Secured
2250	Late entry Terry Farmer took Paul Bechtel to Hospital due to Kidney Pains Possible Kidney stones.

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 21 May 04** **Day: Friday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Safety Briefing vitals taken
0550	Gave Approved MTAD AHA to Jim Pfieffer of Blackhawk Advised to review and abide by the AHA
0617	Paul Bechtel released from the hospital, Kreiger went to pick him up.
0630	

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL				
HOLLOMAN AFB RCWM INVESTIGATION SITE			**DATE: 2 June 04** **DAY: Wednesday**	
COE REP: Richard Byrd		**Contract No.**		
Proj Manager: Lawrence Hudgins		**SUXOS: Paul Bechtel**		
Safety:	**OE items**	**OE scrap: lbs**	**RCWM:**	
Soil Sifted: Cu Yds		**Non OE Scrap: Lbs**		
Team 1:		**Team 2**		
TIME	**DESCRIPTION**			**READINGS**
0530	Morning safety briefing			
0631	Vitals taken radio checks completed			
0653	Mini Cams up and ready			
0703	Team downrange for surface clearance			
0940	Team up range for water break			
1045	Team thru PDS			
1125	Mini Cams re-challenged Team downrange			
1205	Team up range completed removal of fence posts			
1300	Maintenance and secure site			
1330	Secured for the day			
Tomorrow agenda:				
Paul Bechtel, Senior UXO Supervisor				

DAILY JOURNAL			
HOLLOMAN AFB RCWM INVESTIGATION SITE			**DATE: 3 June 04** **DAY: Thursday**
COE REP: Richard Byrd		**Contract No.**	
Proj Manager: Lawrence Hudgins		**SUXOS: Paul Bechtel**	
Safety:	**OE items 23**	**OE scrap: lbs**	**RCWM:**
Soil Sifted: Cu Yds		**Non OE Scrap: Lbs**	
Team 1:		**Team 2**	

TIME	DESCRIPTION	READINGS
0530	Morning safety briefing Vitals taken	
0600	Equipment Checkout	
0615	Schoenstedt checked	
0630	Mini Cams up and ready	
0642	Team downrange for surface clearance	
0750	Team located 18 electric blasting caps corroded QC/safety arrives on site and reports the electric blasting caps 83'E X 80'N	
0810	COE contacts Base EOD for response	
0825	Team locates 3ea 4 lb Incendiary	
0838	Team located 2 smoke pots	
0935	Team up-range EOD has arrived on site	
0942	EOD and UXO escort downrange	
1020	EOD leaves site	
1028	Mini Cams re-challenged	
1035	Team downrange	
1112	Team up-range	
1141	QC downrange QC check of area cleared	
1235	QC up range	
1315	Completed maintenance	
1330	Guard arrives. Secured for the day	

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN AFB RCWM INVESTIGATION SITE			**DATE: 4 June 04** **DAY: Friday**
COE REP: Richard Byrd		**Contract No.**	
Proj Manager: Lawrence Hudgins		**SUXOS: Paul Bechtel**	
Safety:	**OE items**	**OE scrap: lbs**	**RCWM:**
Soil Sifted: Cu Yds		**Non OE Scrap: Lbs**	
Team 1:		**Team 2**	

TIME	DESCRIPTION	READINGS
0530	Morning safety briefing Vitals taken	
0600	Schoenstedt checked	
0630	Mini Cams up and ready	
0730	Team downrange for surface clearance and fence post removal	
0950	Clearance completed	
1000	Team up-range	
1100	Mask cleaning and equipment maintenance	
1250	Equipment maintenance complete	
1315	Security arrives	
1330	Secured for the day	

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN AFB RCWM INVESTIGATION SITE			**DATE: 7 June 04** **DAY: Monday**
COE REP: Richard Byrd		**Contract No.**	
Proj Manager: Lawrence Hudgins		**SUXOS: Paul Bechtel**	
Safety:	**OE items**	**OE scrap: lbs**	**RCWM:**
Soil Sifted: Cu Yds		**Non OE Scrap: Lbs**	
Team 1:		**Team 2**	

TIME	DESCRIPTION	READINGS
0530	Morning safety briefing Vitals taken	
0630	Mini Cams up and ready	
0730	Team downrange for barbed wire fence removal	
1055	Barbed wire removed and fence posts removed with the exception of every third post	
1100	Team up-range	
1130	Mini Cams re-challenged	
1250	QC and COE downrange	
1310	QC and COE return from downrange	
1320	Equipment maintenance complete	
1325	Security arrives	
1330	Secured for the day	

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN AFB RCWM INVESTIGATION SITE		**DATE: 8 June 04** **DAY: Tuesday**	
COE REP: Richard Byrd		**Contract No.**	
Proj Manager: Lawrence Hudgins		**SUXOS: Paul Bechtel**	
Safety:	**OE items**	**OE scrap: lbs**	**RCWM:**
Soil Sifted: Cu Yds		**Non OE Scrap: Lbs**	
Team 1:		**Team 2**	

TIME	DESCRIPTION	READINGS
0530	Morning safety briefing Vitals taken	
0545	Site specific safety briefing given for Geophysical personnel on-site	
0645	Mini-Cams up and ready	
0820	MTADS checked out on geophysical prove-out area	
0852	Team downrange to escort geophysical personnel	
1014	Team up-range	
1032	Mini-Cams clear midday re-challenge	
1058	Team with geophysical personnel downrange	
1250	Mask cleaning and equipment maintenance	
1315	Equipment maintenance complete	
1330	Security arrives	
	Secured for the day	

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN AFB RCWM INVESTIGATION SITE			**DATE: 9 June 04** **DAY: Wednesday**
COE REP: Richard Byrd		**Contract No.**	
Proj Manager: Lawrence Hudgins		**SUXOS: Paul Bechtel**	
Safety:	**OE items**	**OE scrap: lbs**	**RCWM:**
Soil Sifted: Cu Yds		**Non OE Scrap: Lbs**	
Team 1:		**Team 2**	

TIME	DESCRIPTION	READINGS
0530	Morning safety briefing Vitals taken	
0545	Site specific safety briefing given for Geophysical personnel on-site	
0645	Mini-Cams up and ready	
0820	MTADS checked out on geophysical prove-out area	
0852	Team downrange to escort geophysical personnel	
1014	Team up-range	
1032	Mini-Cams clear midday re-challenge	
1058	Team with geophysical personnel downrange	
1250	Mask cleaning and equipment maintenance	
1315	Equipment maintenance complete	
1330	Security arrives	
	Secured for the day	

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 10 June 04** **Day: Thursday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Jerry Kreiger**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Morning Safety Brief and vitals taken
0545	Road Blocks up
0610	Schonstedt and Fisher checked out fro relocation process
0630	Trimble up and ready
0635	Mini Cams up and ready
0645	Geophysics and escort down range relocating anomalies and marking all flag locations. Areas inaccessible with MTADS checked with schonstedt and fisher.
0905	Base security entered the area through the barricade. Said they were chasing someone. Called TSGT Sullivan at the security desk. Told him this can't happen. Informed Corps Safety Richard Byrd of the infraction.
0930	Team up range after relocated and flagging 72 anomalies, checked 4 small areas not accessible to MTADS and mapped in all grid corners and well points
1020	Mini Cams re-challenged
1300	Maintenance on all equipment in preparation for Monday excavation.
1330	Security arrives site secured for weekend

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 14 June 04** **Day: Monday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Steve Burhans**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/B Sammons/C Brown		**TM 2 M Mathews/V Valdez/A Locklear**	

TIME	DESCRIPTION
0530	Morning Safety Brief and vitals taken
0540	Teams briefed on down range operations
0610	Radio checks complete
0625	Teams doing down range setup
0641	PDS Mini Cams up
0657	Team still down range doing setup
0757	Changing out one of the mini cams. Problems w/system
0801	Informed dig package is messed up. Digs missing from sheet. Will call Larry and inform him
0857	Down range Mini Cams up and running after swap out
0905	Setup team up range
0920	Supervisors Walk thru
1019	Team will start in grid A01 and continue with the plan. Conflicts of grid sheets and priority of digs held up this mornings operations
1028	Team going down range
1035	Called Larry Hugdins to keep him informed of the situation with grid sheets
1056	Mini Cams clear
1125	Team returning from down range
1135	QC and Corps Safety going down range to QC Photograph and document 9 holes completed
1215	QC and Corps Safety return
1225	Team filling holes. Grid A01 complete, passed QC and QA.
1310	Area cleanup
1310	Security arrives on site
1330	Site Secured

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor Signed

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 15 June 04** **Day: Tuesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Steve Burhans**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/ A Locklear/B Sammons/		**TM 2 M Mathews/V Valdez/ C Brown**	

TIME	DESCRIPTION
0530	Safety Briefing and Vitals
0710	PDS and down range Mini Cams Up and Ready
0727	Supervisor's Walk thru
0742	Supervisors Up range
0752	Team 1 ready for Downrange but personnel at Barricade requesting drive thru German Connex Mover cannot go on outer road due to size permitted thru
0757	Team 1 cleared downrange
0834	QC/Corp/Daams downrange to document, photograph, and QC/QA excavations
0852	QC/Corp up range
0905	Team 1 excavating new area after moving DAAMS and Mini Cams
0913	Mini Cams Clear
0917	PID reading clear. Flag 32 was pulled, not on dig sheet
0948	QA & QC down range to clear grids B01 & B02
0953	ECBC going down range to move ARTAP
1024	QA, QC & ECBC cleared PDS
1033	Mini Cams challenge
1054	Dust meter TWA .064
1055	Permission to go intrusive
1135	QA, QC & ECBC going down range
1153	Mini cams and Damms relocated
1210	Grids B03, A03, A04 cleared. Grid B04 had no anomalies
1215	End of day activities
1330	End of day

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor Signed

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 16 June 04** **Day: Wednesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Steve Burhans**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/ A Locklear/B Sammons/		**TM 2 M Mathews/V Valdez/ C Brown**	

TIME	DESCRIPTION
0530	Safety Briefing and Vitals
0643	Environmental company checking wells in area about 20 minutes
0630	PDS Mini Cams Up
0700	down range Mini Cams Up and Ready
0728	Well man out
0735	Supervisor's Walk thru complete
0740	Team 1 Downrange ready for intrusive operations
0819	Work Stoppage, Mini Cams Pump Burned up
0852	Still Working on pump
0854	Pump has to be replaced and rechallenged
1050	Mini Cams up and ready
1205	Team stopped digging QC/Corp/Daams downrange to document, photograph, and QC/QA excavations
1311	QC/QA cleared holes, range open for end of day activities.
1330	Secured for end of day

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor Signed

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 17 June 04** **Day: Thursday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Steve Burhans**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/ A Locklear/B Sammons/		**TM 2 M Mathews/V Valdez/ C Brown**	

TIME	DESCRIPTION
0530	Safety Briefing and Vitals
0645	Supervisors Walk Thru
0723	Mini Cams up and down range Up and Ready
0740	Team Down range
0915	Team processing thru PDS all readings clear on PID and only scrap found
0925	QA/QC Downrange
1018	QA/QC completed Escort and Mini Cam downrange for Mini Cams Re-Challenge
1115	Mini Cams rechallenged
1122	Team back down range
1123	TWA .065 PID Neg
1124	Team Intrusive
1214	QC/QA down range
1237	Downrange cleared Grids C02, C03, C04, D03 and D04
1250	Team Prepared range for tomorrow
1330	Secured for end of day

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL

HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 18 June 04** **Day: Thursday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Terry Farmer **QC: Steve Burhans**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: W Hildreth/ A Locklear/B Sammons/		**TM 2 M Mathews/V Valdez/ C Brown**	

TIME	DESCRIPTION
0530	Safety Briefing and Vitals
0720	Supervisors Walk Thru
0722	German forklift thru area team downrange
0740	Permission to go intrusive
0746	Operation stopped forklift back thru area returned to intrusive operation
0928	Team processing thru PDS all readings clear on PID and only scrap found
0942	QA/QC Downrange
1047	QA/QC completed downrange check of al excavation and documented w/photos
1100	Conference call
1130	Team cleared grids D01, D02, and E03 all readings were negative
1245	Team Prepared range for tomorrow
1330	Secured for end of day

Tomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 21 June 04** **Day: Monday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Walter Hildreth **QC: Steve Burhans**	**CWM Totals:**	**OE Totals:**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: V Valdez/ A Locklear/B Sammons/		**TM 2 M Mathews/C Brown**	

TIME	DESCRIPTION
0530	Safety Briefing and Vitals
0636	Mini Cams up at PDS
0923	Mini Cams downrange up
0937	Supervisors Walk Thru
1010	Supervisor Walk Thru Complete
1055	Team Down range excavating flag 120 some type of initiators found with glass
1110	Team processing thru PDS EOD notified
1115	Corp Safety, SUXOS, TEU went downrange to check items
1230	EOD arrived and proceeded downrange to retrieve items
1300	EOD departed with items
1305	Securing downrange
1309	End of day
1330	Site Secured

CorpTomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 22 June 04** **Day: Tuesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Walter Hildreth **QC: Steve Burhans**	**CWM Totals:**	**OE Totals: 1 lb**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE: 8**	**Scrap:**
TM 1: V Valdez/ A Locklear/B Sammons/		**TM 2 M Mathews/C Brown**	

TIME	DESCRIPTION
0428	Bobby Sammons On site for Mini Cams challenge
0530	Safety Briefing and Vitals
0550	Site Setup
0707	Supervisor Walk thru
0730	Mini Cams PDS and downrange up
0742	Team Downrange
0745	Permission to go intrusive PID and Dust meter "0"
0833	PID Reading "0"
0945	Team returned from downrange
0956	QA and QC Downrange
1042	QA and QC Done, Clear for Midday Challenge
1050	Team downrange for mid day Mini Cams Challenge
1136	Mid Day Complete
1157	Team intrusive
1242	Team complete for the day
1305	QA and QC downrange, range Clear
1330	Site Secured
	Grids: F-01, 02, 03, and 04 E-02 Completed

CorpTomorrow agenda:

Paul Bechtel, Senior UXO Supervisor Signed

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 23 June 04** **Day: Wednesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Walter Hildreth **QC: Steve Burhans**	**CWM Totals:**	**OE Totals: 12 lb**	**Scrap Totals:**
Soil Sifted:	**CWM:**	**OE: 7**	**Scrap:**
TM 1: V Valdez/ A Locklear/B Sammons/		**TM 2 M Mathews/C Brown**	

TIME	DESCRIPTION
0430	Bobby Sammons On site for Mini Cams challenge
0530	Safety Briefing and Vitals
0549	Site Setup
0640	Supervisor Walk thru
0650	Mini Cams PDS and downrange up
0710	Team Downrange
0714	Permission to go intrusive PID and Dust meter "0"
0935	PID Reading "0"
0940	Team returned from downrange
0942	ECBC and escort downrange for midday re-challenge
1003	Midday Challenge complete
1010	Team downrange
1016	Team intrusive
1137	Team located 2 complete 4 lb incendiary bomblets and 5 partials. EOD called
1146	team up from PDS
1204	QA and QC downrange
1230	EOD arrives
1245	EOD removes items
1305	Site Secured
1330	Grids: F-01, 02, 03, and 04 E-02 Completed

CorpTomorrow agenda:

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 24 June 04** **Day: Thursday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Walter Hildreth **QC: Steve Burhans**	**CWM Totals:** **2 Vials**	**OE Totals: lb**	**Scrap Totals: 100 Lbs**
Soil Sifted:	**CWM: 2 vials**	**OE:**	**Scrap:**
TM 1: V Valdez/ A Locklear/B Sammons/		**TM 2 M Mathews/C Brown**	

TIME	DESCRIPTION
0430	Bobby Sammons On site for Mini Cams challenge
0530	Safety Briefing and Vitals
0546	Mini Cams up and ready
0705	Supervisor Walk thru
0715	Walk Thru complete
0719	Team Downrange
0726	Permission to go intrusive PID "0" and Dust meter ".010"
0802	Team returned from downrange and QC/QA downrange
0817	QC/QA cleared dig 32
0820	Teams prep area for 10' X 60' dig
0855	Down range clear, Mini Cams up
0925	Supervisor walk thru
0930	Team down range
0935	Going intrusive
1005	Mini Cams clear (dumping Brush)
1035	"0" Pid .033 TWA Request Mini Cams Cycle before dumping dirt
1045	Cycle clear (dumping Dirt)
1051	Team 2 coming backup range for break
1055	Team 1 going down range
1104	.035 TWA "0" Permission to go intrusive
1125	10 minute cycle started for dirt in bucket
1139	Mini Cams cleared (Dumping Dirt)
1216	Mini Cams Cleared (Dumping Dirt)
1230	Team 1 up, Team 2 down range
1254	Team 2 uncover 2 full vials, masked up, moved up wind awaiting Mini Cams Cycle Teu Team dressing out for recovery
1300	Mini Cams Clear, Item marked and team proceeding to PDS, Hudgins notified
1313	David Scruggs called
1315	Tom Zink called but no answer
1345	Team dressed out, down range Mini Cams challenge, cover vials, equipment secure
1405	Team up range site set for tomorrow
1407	David Scruggs called back and brought up to date
1440	Secured for the day

Paul Bechtel, Senior UXO Supervisor Signed

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 25 June 04** **Day: Friday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Walter Hildreth **QC: Steve Burhans**	**CWM Totals: Vials**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM: vials**	**OE:**	**Scrap:**
TM 1: V Valdez/ A Locklear/B Sammons		**TM 2 M Mathews/C Brown**	

TIME	DESCRIPTION
0530	Safety Brief and vitals
0623	Team down range for Mini Cams Set up
0745	Team returns from Mini Cams Setup
0755	TEU Team down range for packing
0806	Team down range
0832	ARTAP unit went down after items were bagged. Ops will continue "0" reading before RTAP failed.
0834	Packaging complete of 2 vials found on 24 June 04.
0853	Team up to PDS for break
0925	ARTAP back up Team returning down range
0940	Team returns to PDS with MRC
0955	TEU and Corp safety picking up MRC from PDS to Secure in IHF
1230	Item Secured in IHF
1330	Site Secured for End of Day.

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 28 June 04** **Day: Monday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Walter Hildreth **QC: Steve Burhans**	**CWM Totals: Vials**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM: vials**	**OE:**	**Scrap:**
TM 1: V Valdez/ A Locklear/B Sammons		**TM 2 M Mathews/C Brown**	

TIME	DESCRIPTION
0530	Safety Briefing and Vitals taken
0600	Team downrange for Mini Cams and Site Setup
0720	Team downrange to turn on DAAMS
0727	DAAMS pumps on, team returning to PDS
0730	Sample Team down range
0735	Beginning Sample TWA .011 Permission for intrusive operations PID "0"
0757	Sampling complete, Returning to PDS
0900	Sample Head Space Negative, QC sent to Mail Samples, 2 Man Team to fill diesel trailer, 2 Man Team downrange to setup for intrusive operations
1023	Re-challenged Mini Cams
1058	Team downrange for intrusive operations 2" by hand on cleared 45' area
1101	Team downrange going intrusive
1200	Completed 2nd 2 inch lift on 45' area, Shut down due to thunder storms in the area
1235	Shutting down site
1330	Site Secured for end of day Guards on site, Water Hildreth has family emergency Leaving site, Mike Mathews taking over safety

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 29 June 04** **Day: Tuesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Mike Mathews **QC: Steve Burhans**	**CWM Totals: Vials**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM: vials**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear/B Sammons/C Brown			

TIME	DESCRIPTION
0530	Safety Briefing and Vitals taken
0605	Team downrange for Mini Cams and Site Setup
0643	Downrange setup complete except for Mini Cams
0727	Mini Cams up team going down range
0745	Permission to go intrusive PID "0" TWA .003 for Dust meter
0819	QC and Safety down range
0856	QC and Safety back to PDS
0944	Down range Team clears medical. QC and Mini Cams down range to Re-Challenge
1000	Re-Challenge completed
1021	QC and QA going down range
1033	QC and QA cleared PDS
1100	Down range team began mechanical 4" lifts on northern 45 feet of area QA and SUXOS went down to Observe Operation
1130	QA and SUXOS return to CP
1238	Team Processing thru PDS
1240	Site open for end of day operations
1300	Results back from Edgewood. No find on sample.
1330	Secured site for the day

Paul Bechtel, ~~Senior~~ UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 30 June 04** **Day: Wednesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Mike Mathews **QC: Steve Burhans**	**CWM Totals:** **9 Vials**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM: 9 vials**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear/B Sammons/C Brown			

TIME	DESCRIPTION
0530	Safety Briefing and Vitals taken
0552	Mini Cams up
0620	Supervisors Walk Thru
0637	Downrange team request permission to go intrusive
0735	SUXOS and QC downrange
0820	Team Up Range for Break
0915	Mini Cams Re-challenge complete
0925	Team downrange
1010	Received hard copy of sample report from Monday – No find
1122	Mini Cams cycle clear All soil pile excavated thus far are clear Team beginning 2" lifts on southern portions of 10'X 60'
1135	Team discovered 9 vials downrange, Masked up, Covered the items with plastic Coming back through PDS
1140	Called David Scruggs and Tom Zink, Informed of the vials located. Called Suzy McKinny, Not at office, left message
1330	End of Day.

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 1 July 04** **Day: Thursday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Mike Mathews **QC: Steve Burhans**	**CWM Totals:** **1 Vials**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM: 1 vials**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear/B Sammons/C Brown			

TIME	DESCRIPTION
0530	Safety Briefing and Vitals taken
0735	Mini Cams up
0747	TEU Downrange to package items located 1 additional vial
0835	Team back through PDS for break
0945	Team back down range
1015	Team Returned to PDS with items
1040	Sample team downrange
1044	Items placed in IHF compound awaiting Mini Cams and Sample team to finish.
1100	Down range Team completed sampling
1215	Sample cleared Headspace Negative for CWM
1250	Items secured in IHF, Sampled packed for shipment to Edgewood
1330	Site secured end of day

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 2 July 04** **Day: Friday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS:** Paul Bechtel	
Safety: Mike Mathews **QC: Steve Burhans**	**CWM Totals: Vials**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM: vials**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear/C Brown			

TIME	DESCRIPTION
0605	Began inventory
1000	Inventoried all serialized items and equipment
1130	Brown Driving Yukon (Enterprise Rental) to El Paso Airport for New Documentation and Inspection
1500	Returned from El Paso

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 6 July 04** **Day: Tuesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown (Temp)**	
Safety: Mike Mathews **QC: Steve Burhans**	**CWM Totals: Vials**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM: vials**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear/B Sammons/C Brown			

TIME	DESCRIPTION
0600	Arrived on site for inventory of non-serialized equipment
0856	Prepared daily journals for 30 Jun thru 3 Jul 2004
1000	Received Call from Terry Farmer requesting journals 25 June and on be E-mailed to him.
1130	Unable to get on-line don't know password will go home and try sending fom there
1255	Security guard arrives
1330	Secured site
1400	Arrived hotel
1430	Completed emails

Chris E, Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 7 July 04** **Day: Wednesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris Brown (Temp)**	
Safety: Mike Mathews **QC: Steve Burhans**	**CWM Totals:** **2 Vials**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM: 2 vials**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear/B Sammons			

TIME	DESCRIPTION
0530	Paul Bechtel's Flight Cancelled, Brown Temporary SUXOS Safety Briefing and Vitals taken
0615	Team downrange for site prep Mini Cams warming up
0635	Downrange setup complete except for Mini Cams
0720	Mini Cams Up request escort downrange
0745	Mini Cams and Daams up and running
0750	Supervisors Walk thru
0800	Supervisors up from down range
0804	Team down range.
0837	Down range team requests Mini Cams cycle for clearance of dirt in bucket
0842	Mini Cams cycle begins
0852	Mini Cams cycle clear dumping dirt from bucket at this time
0857	Team Beginning 4" lifts with backhoe.
0915	Team doing well
0929	Team located 2 vials full Masked up and covering with plastic
0930	Team moving up range to PDS vials 2' south of anomaly 99 at 6-8" deep.
0937	Down range team Cleared PDS
0940	Mini Cams Clear
0945	David Scruggs and Tom Zink (left messages) Zapata Engineering contacted (Suzy McKinney
0953	David Scruggs contacted will inform Air Force Personnel.
1003	QC with DAAMs and Mini Cams personnel downrange to retrieve instruments And end of day challenge
1028	QC returns to PDS for Mini Cams source pickup
1033	QC returns down range for challenge
1044	QC returns up range challenge completed
1130	Maintenance of equipment and teardown of PDS
1220	Completed maintenance
1318	Security arrived
1330	Site secured end of day

Chris E. Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 8 July 04** **Day: Thursday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Paul Becthel**	
Safety: Mike Mathews **QC: Steve Burhans**	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear/B Sammons/C Brown			

TIME	DESCRIPTION
0530	Safety Briefing and Vitals taken
	Team downrange for site prep Mini Cams warming up
0645	Mini Cams Operational
0657	TEU downrange to Package vials located on 7 July 04
0742	TEU back up range items packaged
0810	Sample Team down range.
0835	Sample team completed sampling back from downrange.
0905	Mini Cams cycle Completed downrange secured
0935	Packaging and documenting sample for shipment to Edgewood.
1000	Accomplishing equipment maintenance and clean up of area.
1220	Completed maintenance
1230	Sample shipped to Edgewood
1300	Security arrived
1330	Site secured end of day

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 9 July 04** **Day: Friday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Paul Becthel**	
Safety: Mike Mathews **QC: Chris Brown**	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear/B Sammons/C Brown			

TIME	DESCRIPTION
0530	Safety Briefing and Vitals taken
0545	Team downrange for site prep
0620	Mini Cams Operational
0625	Supervisors' Walk thru
0632	Walk thru complete.
0645	Team down range to excavate remainder of 10' X 60' area.
0830	Down range Requests Mini Cams cycle to clear soil excavated from area
0835	Team returns up range to await Mini Cams cycle..
0844	Mini Cams cycle clear.
0900	Called Edgewood about Sample received documentation but no cooler
1000	Called Mail direct to inquire about the cooler they said it had gone out
1030	Paul Bechtel and Bobby Sammons to hotel to start packing.
1120	Completed maintenance, area cleanup, and weekly documentation completed
1130	SUXOS goes to direct mail to find out what happened to the cooler
1310	Security arrived
1330	Site secured end of day

Paul Bechtel, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 12 July 04** **Day: Monday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown**	
Safety: Mike Mathews	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: V Valdez/A Locklear			

TIME	DESCRIPTION
0530	Safety Briefing and Vitals taken
0605	Team downrange for Mini Cams and DAAMS setup
0620	UXO team downrange to Clean and pickup backhoe
0630	6 TEU downrange to set up for RAMANS System
0717	TEU back thru PDS
0720	Valdez and Locklear excavating seeds in Geophysical Prove out area.
0815	Mini Cams Operational TEU downrange to setup empty MRCs
0844	TEU through PDS downrange in Level C
0850	TEU calls for Mini Cams Cycle
0900	Mini Cams Cycle Clear
0901	TEU calls for Mini Cams Cycle
0912	Mini Cams Cycle Clear
0913	TEU calls for Mini Cams Cycle
0923	Mini Cams Cycle Clear
0924	TEU calls for Mini Cams Cycle
0934	Mini Cams Cycle Clear
0935	Team to PDS
0947	Medics called to PDS to Check Vitals
1021	Team returning downrange
1025	TEU calls for Mini Cams Cycle
1035	Mini Cams Cycle Clear
1105	Team returning to PDS for break and vitals
1120	Mini Cams downrange for mid-day challenge
1200	E-Mailing results to Dr. Christesen
1316	Team down range to place 8 vials in MRCs. Security on site.
1324	Team requests time check. Packaged 7 vials in plastic drum (Industrial Waste) Vials 01,03,06,07,12 PS (Chloropicrin)Vials 02,04 CG (Phosgene)Vials 05,08,09,10,11,13,14,15 H/L (mustard or Lewisite) could not differentiate Between Mustard and Lewisite due to over fluoresces
1342	Team exiting downrange with MRC
1349	Team down range for Mini Cams end of day challenge
1352	TEU moving MRC into IHF
1449	Days Operations concluded Site Secured

Chris E. Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 13 July 04** **Day: Tuesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown**	
Safety: Mike Mathews	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: A Locklear			

TIME	DESCRIPTION
0530	Safety Briefing and Vitals taken
0545	Team downrange for site prep
0655	Mini Cams Operational
0700	Awaiting Sample results down range set up for drumming of contaminated soils
1037	Sample results arrive 54 PPB Lewisite
1115	Safety, DAAMS, and Mini Cams downrange for end of day challenge
1150	Return from down range
1200	Medics departing site due to prior commitment
1326	Security arrived
1330	Site secured
1530	Returned to hotel completed daily journals and inventory
1600	Completed e-mails

Chris E. Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 14 July 04** **Day: Wednesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown**	
Safety: Mike Mathews	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: A Locklear			

TIME	DESCRIPTION
0530	Safety Briefing
0640	Mini Cams and DAAMs down range with Brown escorting
0730	Mini Cams and DAAMs setup back up range
0800	Conference Call
0910	Conference Call Complete suggested we retake the sample
0920	Brown for ice. Mathews preparing sample jars
0935	Brown returned
0948	Sample team down range
1002	Sample #6 (DP-64-06) being taken
1011	Sampling completed
1030	Sample prepared for shipment
1050	Mini Cams Hot Box of sample (Negative Results)
1100	Samples to Fed Ex
1220	Road blocks removed
1230	Site cleanup accompliished
1326	Security arrived
1330	Site secured end of day

Chris E. Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 15 July 04** **Day: Thursday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown**	
Safety: Mike Mathews	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: A Locklear			

TIME	DESCRIPTION
0530	Safety Briefing
0640	Awaiting sample results
0730	Separating Holloman gear from Laurinburg equipment
0800	Tracking fed ex Package
0910	Located fed ex package in Baltimore, MD
1011	Gave 4 Interspiros to ECBC for return to Edgewood
1030	Search was conducted for MSA Masks None were located
1050	Fed ex returned call stating the zip code wrong changed code to 21040
1100	Took COE CAIS kits to Fed Ex
1110	Working on equipment inventory
1220	Bring up water trailer for maintenance
1230	Maintenance man from RCS serviced water trailer and picked up ECBC generator
1300	Site cleanup accomplished
1316	Security arrived
1330	Site secured end of day
1530	Completed QC dailys
1600	e-mailed to office

Chris E. Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 16 July 04** **Day: Friday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown**	
Safety: Mike Mathews	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: A Locklear			

TIME	DESCRIPTION
0530	Safety Briefing
0640	Emptying water tank
0730	Checking on samples on truck for delivery
0800	Accomplishing paperwork for time and expense.
0910	Edgewood received samples. Setup Physical for Monday afternoon
1011	COE leaves.
1030	Gail Soubie called samples no detection Moved 1 barrel of decontamination water and 1 barrel of broken ampoules(9) downrange positioned next to fence. Removed plastic from piles for Monday filling of excavations.
1120	Completed task
1220	Returning down range to pickup DAAMs stands
1230	ECBE has 2 16 oz bottles of expended test ampoules to turn over to base hazmat
1300	Base hazmat seems hesitant to take materials although earlier agreement stated they Would take these items
1316	Called David Scrugg he will be out to look at items and possibly take them After he gets out of training class in an hour and a half
1330	Moved air conditioning unit into MSRP
1420	David Scruggs shows up and takes possession of hazmat
1430	Departs
1445	ECBC turns over keys to one MSRP
1500	Departed site to retrieve Keys for second MSRP and Mail weekly FED EX
1530	Mailed Fed Ex
1545	Returned to hotel to fill out daily.

Chris E. Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 19 July 04** **Day: Monday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown**	
Safety: Mike Mathews	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: A Locklear			

TIME	DESCRIPTION
0530	Safety Briefing
0640	Filled out samples documentation for waste water sample
0730	Took water sample from waste water barrel
0800	Packaged water sample. Tony to Dave Scruggs office to pick up packages
0840	Tony returns with 6 MRCs ordered by TEU 2wks ago.
0910	Removed plastic and all gear from down range. TEU takes MRCs.
1011	Began moving all Laurinburg equipment to connex for Storage.
1110	Brown departs for new vehicle pass, fed ex sample, and physical.
1230	Cleared out team trailer, Called Electrician and phone company for disconnect.
1300	Called RSC for pickup of backhoe and water trailer.
1305	Called wagner rental for pickup of fuel trailer.
1316	Guard arrives
1330	Site secured. Brown arrived in El Paso for Physical
1420	Physical starts
1615	Physical ends
1745	Arrived in Alamogordo.

Chris E. Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 19 July 04** **Day: Monday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown**	
Safety: Mike Mathews	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: A Locklear			

TIME	DESCRIPTION
0530	Safety Briefing
0640	Filled out samples documentation for waste water sample
0730	Took water sample from waste water barrel
0800	Packaged water sample. Tony to Dave Scruggs office to pick up packages
0840	Tony returns with 6 MRCs ordered by TEU 2wks ago.
0910	Removed plastic and all gear from down range. TEU takes MRCs.
1011	Began moving all Laurinburg equipment to connex for Storage.
1110	Brown departs for new vehicle pass, fed ex sample, and physical.
1230	Cleared out team trailer, Called Electrician and phone company for disconnect.
1300	Called RSC for pickup of backhoe and water trailer.
1305	Called wagner rental for pickup of fuel trailer.
1316	Guard arrives
1330	Site secured. Brown arrived in El Paso for Physical
1420	Physical starts
1615	Physical ends
1745	Arrived in Alamogordo.

Chris E. Brown, Senior UXO Supervisor

DAILY JOURNAL			
HOLLOMAN CHEMICAL WARFARE MATERIALS RECOVERY ACTIONS DP-64			**DATE: 20 July 04** **Day: Tuesday**
COE REP: Richard Byrd		**Contract No. DACA87-00-D-0034**	
Proj Manager: Lawrence Hudgins		**SUXOS: Chris E. Brown**	
Safety: Mike Mathews	**CWM Totals:**	**OE Totals: lb**	**Scrap Totals: Lbs**
Soil Sifted:	**CWM:**	**OE:**	**Scrap:**
TM 1: A Locklear			

TIME	DESCRIPTION
0530	Moving equipment out of team trailer to connex
0600	Sweeping out team trailer
0715	Caution tape and fence post around barrels of Hazmat: industrial waste, broken vials and decontamination water.
0930	Ordnance scrap inspected by COE safety and SUXOS
1030	Containers 2 ea 5 gallon plastic buckets 50 lbs each of OE Scrap were sealed with the following seals: Bucket 1 seal no. 0041184, 0041185, 0041186 Bucket 2 seal no. 0041187, 0041188, 0041190
1045	Mathews and Locklear to Mathew's storage to retrieve pressure washer and Weed eaters.
1100	Paperwork for scrap certification being prepared.
1120	Mathews to fed ex to ship instruments back to Pine Environmental
1125	Water trailer picked up by RCS
1130	Surveyors arrive to plot 5 points down range in.
1230	Surveyors complete plotting
1326	Guard arrives
1330	Site secured
	These are the locations of the pin flags and altitude. 02,516725.853965,207175.907023,1234.0440,Pin.flaglocation 203,516729.105993,207177.473180,1234.0023,Pin.flaglocation 204,516727.128541,207180.084608,1234.0732,Pin.flaglocation 205,516720.747376,207194.515943,1234.6392,Pin.flaglocation 206,516723.732093,207195.087705,1234.5624,Pin.flaglocation

Chris E. Brown, Senior UXO Supervisor

APPENDIX I
SAFETY DOCUMENTATION

Accidents

Strict adherence to the approved Site Specific Health Plan (SSHP), daily safety briefings and daily equipment safety inspections resulted in no accidents, injuries or near misses during the OE/RCWM Investigation and Removal at Holloman Air Force Base, New Mexico. Due to the extreme desert heat and wearing of Personal Protective Equipment (PPE) the UXO Safety Officer mandated that vital signs be taken on all site personnel by Emergency Medical Technicians (EMTs), licensed in the State of New Mexico. Those personnel involved in downrange activities were medically monitored upon each entry to and exit from the exclusion zone. All vital signs were logged by the EMTs.

Air Monitoring

The Edgewood Chemical Biological Center (ECBC) conducted all air monitoring using the MINIRAMS and DAAMS tubes. All air-monitoring results were provided in ECBC's daily Situation Reports (SITREPS). There were no readings above background levels detected during site operations.

SAFETY MEETING ATTENDANCE LOGS

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4/21/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: MOSTLY SUNNY, HIGH 84°/LOW 53° WINDS 5-10 MPH GUSTY IN P.M.

I. Safety Meeting Topic(s): VEHICLE SAFETY, HOSPITAL ROUTE

II. Attendees:

Name	Signature	Company	Tick(s)
✓ GIVENS, ARCHIE A.		ZAPATA ENG.	
VAL VALDEZ		ZAPATA	
JEREMY MASER		ECBC	
✓ JON MICHAEL GORE		ECBC	
✓ Robin Giles		ECBC	
✓ Dx BAYSINGER		TEU	
✓ Arielle Rodriguez		TEU	
✓ William STAVIS		TEU	
✓ Bart L MARSTERS		TEU	
✓ ARILES JULIO A		TEU	
✓ VINSON, JR. ALFRED L.		TEU	
✓ ARENIEGO, JAMES O.		TEU	
✓ Everett, Glenn G.		TEU	
✓ Saul Martinez.		TEU.	
✓ Maddox, Charles		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/21/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4/21/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions:

I. Safety Meeting Topic(s): CHEMICAL AGENT SYMPTOMS
CHEMICAL AGENTS FIRST AID –

II. Attendees:

Name	Signature	Company	Tick(s)
Ryan P. O'Connell	Ryan P. O'Connell	TEU	
Richard Byrd	[illegible]	CEHNC	
Paul Bechtel	[illegible]	ZAPATA	
John Henley	[illegible]	ZAPATA	
Michael Matthews	[illegible]	Zapata	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: [illegible] Date: 4/21/04

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4/22/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 83°/LO 53° WIND SE 24 MPH

I. Safety Meeting Topic(s): STATIC ELECTRICITY, EYE PROTECTION

II. Attendees:

Name	Signature	Company	Tick(s)
Michael Matthews		Zapata	
ARCHIE GIVENS		ZAPATA	
Bobby Sammons		RONCO	
VAL VALDEZ		ZAP	
JOHN HEALEY		ZAPATA	
PAUL BECHTEL		ZAPATA	
Ryan O'Connell		TEU	
Charles Madden		TEU	
Glenn Everett		TEU	
VINSON, JR. ALFRED L		TEU	
Doc BAYSINGER		TEU	
Cremiego, James O.		TEU	
William STAVIS		TEU	
BART L MARSTERS		TEU	
Saul Martinez		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/22/04

2 OF 2

Zapata Engineering	Safety Meeting Attendance Log
Date: 4-23-04 Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019	Location: Holloman AFB

Weather Conditions:

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
AVILES L.A.		TEJ	
Arielle Rodriguez		TEJ	
Jon-Michael Gove		ECBC	
JEREMY MASON		ECBC	
Robin Giles		ECBC	
Denny Hall		ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/22/04

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4/23/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: PARTLY CLOUDY HI 76°/LO 45° WIND SW 10 MPH, GUSTY IN P.M.

I. Safety Meeting Topic(s): BIOLOGICAL HAZARDS

II. Attendees:

Name	Signature	Company	Tick(s)
ARCHIE GIVENS		ZAPATA	
Michael Matthews		Zapata	
PAUL BECHTEL		ZAPATA	
RICHARD BYRD		CEHNC	
Denny Hall	Denny Hall	ECBC	
Maddox, Charles		TEU	
Doz Baysinger		TEU	
Glenn Everett		TEU	
VINSON, A. L.	A. L. Vinson	TEU	
Bart C Marsters		TEU	
Ryan P. O'Connell		TEU	
William STAVIS		TEU	
Arielle Rodriguez		TEU	
Martinez, Saul		TEU	
Quenicgo, James O.		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/23/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4-23-04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
AVILES JA.		TEU	
Jeremy Mason	Jeremy Mason	ECBC	
Jon-Michael Gore	Jon Michael Gore	ECBC	
Robyn Giles	Robyn Giles	ECBC	
[illegible]	[illegible]	ZAP	
Bob Simmons		RONCO	
John Henley	[illegible]	ZAPATA	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4/26/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY, HI 80° LO 61° WIND SE @ 8MPH

I. Safety Meeting Topic(s): SITE SAFETY TRAINING

II. Attendees:

Name	Signature	Company	Tick(s)
Ryan P. O'Connell	Ryan P. O'Connell	TEU	
MARK LEACH	Mark Leach	ECBC	
Doc Barsinward	Doc Barsinward	TEU	
Brett Masters	Brett Masters	TEU	
Avilen J A	[illegible]	TEU	
Vinson, A.L.	A.L. Vinson	TEU	
William STAVIS	[illegible]	TEU	
Saul Martinez	Saul Martinez	TEU	
Glenn Everett	[illegible]	TEU	
Arielle Rodriguez	[illegible]	TEU	
James Quemego	[illegible]	TEU	
Maddox, Charles	[illegible]	TEU	
Michael Matthews	[illegible]	Zapata	
WALTER HILDRETH	[illegible]	ZAPATA	
ANTHONY LOCKHEAR	[illegible]	ZAPATA	

III. Verification:

I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: [illegible]	Date: 4/26/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date:	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Bobby Sommoos		PONCO	
John Henley		ZAPATA	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/26/04

1 OF 2

Zapata Engineering		**Safety Meeting Attendance Log**
Date: 4/27/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 82° LO 53° WIND SE @ 10 MPH

I. Safety Meeting Topic(s): PPE, HEAVY LIFTING, TRIP HAZARDS

II. Attendees:

Name	Signature	Company	Tick(s)
FILES J.H.		TEU	
VINSON, A.L.	A.L. Vinson	TEU	
Saul Martinez	Saul Martinez	TEU	
Glenn Everett		TEU	
Brent Masters		TEU	
Charles Maddox		TEU	
James Arenego		TEU	
William Simms		TEU	
		TEU	
Ryan P. O'Donnell		TEU	
Joe Baysinger		TEU	
Robin Giles		ECBC	
Jon-Michael Gold		ECBC	
Jeremy Mason		ECBC	
MARK LEACH		ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/27/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log	
Date:	Time:	Contract Number: DACA87-00-D-0034	
Delivery Order Number: 0019		Location: Holloman AFB	
Weather Conditions:			
I. Safety Meeting Topic(s):			
II. Attendees:			
Name	Signature	Company	Tick(s)
CHRIS E BROWN		ZAPATA	LEFT EYE TWITCH
ANTHONY LOCKLEAR		Zapata	
ARCHIE A GIVENS		ZAPATA	
John Healey		ZAPATA	
Bobby Sanchez		RONCO	
WALTER HILDRETH		ZAPATA	
[illegible] VALDEZ		ZAP	
[illegible] BEECHTEL		ZAPATA	
Gary Girardeau		Clean Managt	Environmental
DAVID HUGHES		CLEAN MGMT	ENV. GROUP
David Wheeler		AMR - Ambulance	
Angela Morgan		AMR-EMS	
Michael Matthews		Zapata	
Kellie Williams	Kellie Williams	CEHNC	
Sherri Anderson Hudgins	SHERRI ANDERSON HUDGINS	CEHNC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/20/09

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4/28/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: PT. CLOUDY 80° LO 53° WIND FROM SOUTH @ 14 MPH

I. Safety Meeting Topic(s): HYDRATION

II. Attendees:

Name	Signature	Company	Tick(s)
Robin Giles	Robin Giles	ECBC	
Chris E Brown	[illegible]	ZAPATA	
Arielle R. Rodriguez	[illegible]	TEU	
Mark Leach	[illegible]	ECBC	
Jeremy Mason	[illegible]	ECBC	
Jon-Michael Gore	[illegible]	ECBC	
Doc Baysinger	[illegible]	TEU	
William Stang	[illegible]	TEU	
Madelos, Charles	[illegible]	TEU	
Everett, Glenn	[illegible]	TEU	
Giles JA	[illegible]	TEU	
Martinez, Saul	[illegible]	TEU	
Brent L Masters	[illegible]	TEU	
James Arenego	[illegible]	TEU	
Vinson, A.L.	[illegible]	TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: [illegible]	Date: 4/28/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4-28-04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Ryan P. O'Connell	Ryan P. O'Connell	TEC	
Bobby Summons		RONCO	
ANTHONY LOCKLEAR	Anthony Locklear	Zap	
WALTER HILDRETH	Walter Hildreth	ZAPATA	
Michael Matthews	[illegible]	Zapata	
JAY VALDEZ	[illegible]	ZAP	
ARCHIE GIVENS	[illegible]	ZAPATA	
PAUL BEEHTEL	[illegible]	ZAPATA	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4/29/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY 83° HIGH WINDS 25-35 MPH

I. Safety Meeting Topic(s): TRIPS, DOWN RANGE GENERAL SAFETY

II. Attendees:

Name	Signature	Company	Tick(s)
Bobby Summons		RONCO	
WALTER HILDRETH		ZAPATA	
PAUL BECHTEL		ZAPATA	
RICHARD BYRD		CEHNC	
Ryan O'Connell		TEU	
VINSON, A.L.		TEU	
James Arenigo		TEU	
Saul Martinez		TEU.	
BART L MADSTERS		TEU	
Glenn G. Everett		TEU	
WILLIAM STAVIS		TEU	
Maddox, Charles		TEU	
AVILES JA		TEU	
Don Bumgarner		TEU	
Robin Giles		ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/29/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4.29.04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Jon-Michael Gore		ECBC	
JEREMY MASON		ECBC	
Arielle Rodriguez		TEU	
Chris E Brown		ZAPATA	
[illegible]		ZAP	
MARK LEACH		ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4/30/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: MOSTLY SUNNY 76° TO 60° WIND SW @ 17-25

I. Safety Meeting Topic(s): SUN PROTECTION

II. Attendees:

Name	Signature	Company	Tick(s)
CHRIS E BROWN		ZAPATA	FACIAL CUTS
Bobby Simmons		RODCO	
ANTHONY LOCKHEAR		Zapata	
PAUL BECHTEL		ZAPATA	
RICHARD BYRD		CEHNC	
Ryan O'Connell		TEU	
JAC JACOBS		ZAP	
VINSON, A. L.		TEU	
James O. Arenivego		TEU	
BART L MARSHALL		TEU	
Glenn G. Everett		TEU	
William STANIS		TEU	
AYILES JA		TEU	
Maddox, Charles		TEU	
Martinez, Saul		TRU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 4/30/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 4-30-04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions:

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Joe Baysinger		TEU	
Arielle Rodriguez		TEU	
Jeremy Mason		ECBC	
Robin Giles		ECBC	
Samuel Wright		ECBC	
Jon-Michael Gore		ECBC	
Mark Leach		ECBC	
Walter Hildreth		ZAPATA	
Archie Givens		ZAPATA	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/03/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 84°/LO 58° WIND SW @ 8 MPH

I. Safety Meeting Topic(s): COMMUNICATIONS

II. Attendees:

Name	Signature	Company	Tick(s)
Walter Hildreth		ZAPATA	
ARCHIE GIVENS		ZAPATA	
Michael Matthews		Zapata	
Mo PALEPALO		ECBC	
Jay Meadows		ECBC	
MARK LEACH		ECBC	
Bobby SIMMONS		RONCO	
PAM BEUTEL		ZAPATA	
RICHARD BYRD		CEHNC	
JAN VALDEZ		ZAI	
Samuel Wright		ECBC	
VINSON, A.L.		TEU	
ALVINCS J.A.		TEU	
Everett Glenn G.		TEU	
Jon-Michael Gore		ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/03/04

2 of 2

Zapata Engineering		Safety Meeting Attendance Log
Date:	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
James O. Armenego		TEU	
Bret L Masters		TEU	
Saul Martinez		TEU	
Maddox, Charles		TEU	
Arielle Rodriguez		TEU	
William Stavis		TEU	
Ryan O'Connell		TEU	
Chris E Brown		ZAPATA	
David Wheeler		AMR	
Craig Morgan		AMR	
Anthony Lockhear		Zapata	
Larry Hudgins		ZAPATA	
Joe Baysinger		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/03/04

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 05/04/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 92°/LO 61° WIND SW @ 7MPH

I. Safety Meeting Topic(s): REAL-TIME SAFETY DURING DRILLS, PROPER LIFTING, HYDRATION

II. Attendees:

Name	Signature	Company	Tick(s)
Ryan P. O'Connell	Ryan P. O'Connell	TEU	
Chris E Brown		ZAPATA	
Larry Hudgins		ZAPATA	
Anthony Lockhear		Zapata	
Michael Matthews		Zapata	
Bobby Samuros		RONCO	
Walton Hildreth	Walton Hildreth	ZAPATA	
Mark Leach	Mark	ECBC	
Van Vacque		ZAP	
Vinson, AL	A.L. Vinson	TEU	
Pam Beckham		ZAPATA	
William Stavio		TEU	
James O Chenigo		TEU	
Glenn Everett		TEU	
Arilces SA		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/04/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date:	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Jon Michael Gore		ECBC	
Jay Meadows		ECBC	
M. Palcpaie		ECBC	
Don Bryson		TEU	
Ariel Rodriguez		TEU	
Saul Martinez		TEU	
[illegible]		TEU	
[illegible]		AMR	
JOAQUIN SILVA		AMR	
SHERRI ANDERSON HUDGINS		COE-HNC	
Greg Bayuga		COE HNC	
SCOTT BRADLEY		COE HNC	
Steven D. Norman		ECBC	
Christopher C. Kieser		ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/4/04

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/05/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUN 92/59 WINDS SW@7

I. Safety Meeting Topic(s): HEAT, CHARACTERISTICS OF CHEMICALS

II. Attendees:

Name	Signature	Company	Tick(s)
Arielle Rodriguez		TEU	
Aviles J.A.		TEU	
Jon-Michael Gore		ECBC	
Saul Martinez		TEU.	
William Stans		TEU	
Doc Batsinger		TEU	
Brent Masters		TEU	
Maddox Charles		TEU	
Everett Glenn		TEU	
James O. Chenego		TEU	
Vinson, A.L.		TEU	
Jan Sanders		CAP	
Mo Palepale		ECBC	
Jay Meadows		ECBC	
Mark Leach		ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: Date: 5/05/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date:	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
PAUL BECHTEL		ZAPATA	
Chris E Brown		ZAPATA	
Ryan O'Connell		TEU	
Greg Bayuga		USACE	
Christopher C. Keiser		ECBC	
LARRY HUDGINS		ZAPATA	
WALTER HILDRETH		ZAPATA	
Bobby Sammons		RONCO	
ANTHONY LOCKHAR		Zapata	
Michael Matthews		Zapata	
SHERRI ANDERSON HUDGINS		COE-HNC	
Angela Morgan		AMR	
[illegible]		AHK	
SCOTT BRADLEY		USA COE	
RICHARD BYRD		CEHNC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/05/04

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/6/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY 92/61 WIND SW@6mph

I. Safety Meeting Topic(s): SANITATION, SNAKES

II. Attendees:

Name	Signature	Company	Tick(s)
WALTER HILDRETH		ZAPATA	
Jerry Krieger		ZAPATA	
Van VALDEZ		ZAP	
Bobby SAMMOOS		ROOCO	
LARRY HUDGINS		ZAPATA	
ANTHONY LOCKHAR		Zapata	
PAUL BECHATEL		ZAPATA	
Michael Matthews		Zapata	
Saul Martinez		TEU	
Doc BAYSINGER		TEU	
Jon-Michael Gore		TEU	
James O. Armiego		TEU	
Agielle Rodriguez		TEU	
AVILES J.A.		TEU	
Maddox Charles		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/6/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5-6-04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions:

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
William Stavil		TEU	
Bart L Masters		TEU	
Glenn G. Everett		TEU	
Vinson A.L.		TEU	
Ryan O'Connell		TEU	
Mo Palepale		OCBC	
Joy Meadows		OCBC	
Chris C Brown		ZAPATA	
Mark Leach		ECRC	
Richard Byrd		CEHNC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/7/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY 92 WIND SW @ 10-15 MPH

I. Safety Meeting Topic(s): FIRE PREVENTION, GOOD HOUSEKEEPING

II. Attendees:

Name	Signature	Company	Tick(s)
PAUL BECHTEL		ZAPATA	NO
Jerry Krieger		ZAPATA	NO
Bobby Simmons		RONCO	
Walter Hildreth		ZAPATA	
Chris E Brown		ZAPATA	
ANTHONY LOCKLEAR		Zapata	
[illegible]		ZAP	
Michael Matthews		Zapata	
Bart Masters		TEU	
Charles Maddox		TEU	
Don Barsinger		TEU	
William STAUB		TEU	
Ryan O'Connell		TEU	
Glenn G. Everett		TEU	
James O Arenigo		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/7/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5-7-04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions:

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
VINSON, A.L.	A.L. Vinson	TEU	
Jon-Michael Gar[illegible]	[illegible]	ECBC	
Arielle Rodriguez	[illegible]	TEU	
Jay Meadows	J Meadows	ECBC	
M. Pauline	M. Pauline	ECBC	
AVILES JA	[illegible]	TEU	
Martinez Saul	Saul Martinez	TEU	
MARK LEACH	Mark [illegible]	ECBC	
RICHARD BYRD	[illegible]	CEHNC	

III. Verification:
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Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/10/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY 85° WIND SW@ 11mph

I. Safety Meeting Topic(s): AHAs

II. Attendees:

Name	Signature	Company	Tick(s)
CHRIS E BROWN		ZAPATA	
Michael Matthews		Zapata	
Walter Hildreth		ZAPATA	
Mo Pacheco		ECBC	
Bobby Romero		RONCO	
[illegible]		ZAP	
ANTHONY LOCKHEAR		Zap	
Jean-Michael Gore		ECBC	
Ryan O'Connell		TEU	
VINSON, A.L.		TEU	
BARTH MASTERS		TEU	
Martinez, Saul		TEU	
Maddox, Charles		TEU	
Arielle Rodriguez		TEU	
DOC BAYSINGER		TEU	

III. Verification:
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Site Safety Officer:	Date: 5/10/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/10/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
AVILES J A		TEU	
William STAUB		TEU	
Everett Glen C.		TEU	
Arenigo, James O.		TEU	
PAUL BECKER		ZAPATA	
Jay Meadows		ECBC	
MARK LEACH		ECAC	
CARL LOPEZ		AMR	
JEFF JOYCE		AMR	
RICHARD BYRD		CEHNC	
HANK HUBBARD		CSE	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 of 3

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/11/04	Time: 0730	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY H188°/L057° WINDS SW@17 MPH

I. Safety Meeting Topic(s): CHEMICALS OF CONCERN

II. Attendees:

Name	Signature	Company	Tick(s)
Jerry Krieger	Jerry Krieger	Zapata	NO
PAUL BELTRE	[illegible]	ZAPATA	MAYBE
Ryan O'Connell	Ryan O'Connell	TEU	
RICHARD BYRD	[illegible]	CEHWC	
BART MARSTERS	[illegible]	TEU	
Martinez Saul	Saul Mart	TEU.	
Jay Meadows	J. Meadows	ECBC	
Mo Palomare	[illegible]	ECBC	
Maddox Charles	[illegible]	TEU	
Arielle Rodriguez	[illegible]	TEU	
AVILES JA	[illegible]	TEU	
STAVIS, William	[illegible]	TEU	
VINSON, A.L.	A.L. Vinson	TEU	
DOC BAYSINGER	[illegible]	TEU	
James O Arenigo	[illegible]	TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: [illegible] Date: 5/11/04

2 of 3

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/11/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Everett Glenn G.		TEU	
Jon Michael Gore		ECBC	
MARIL LEACH		ECBC	
Andrew Cote	Andrew Cote	ECBC	
Jarad Tucker		ECBC	
Michael Matthews		Zapata	
Irene Richardson	Irene Richardson	USACHPPM	
Walter Wyatt		TEU	
Chris G Brown		ZAPATA	
Jesse Granger	Jesse Granger	TCES	
Anthony Lockhart		Zap	
[illegible]		ZAP	
Walter Hildrett		ZAPATA	
Bobby Sanner		RON CO	
Angela Morgan	Angela Morgan	AMR	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date:

3 of 3

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/11/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions:

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Joel Darby	Joel Darby	AMR	
GREG MASON	Greg Mason	CH A	
FRANK HUBBARD	Frank C Hubbard Jr	USACE	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/11/04

1 OF 3

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/12/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 87° WIND WSW @ 16 MPH

I. Safety Meeting Topic(s): DOWN RANGE SAFETY

II. Attendees:

Name	Signature	Company	Tick(s)
Jerry Krieger	Jerry Krieger	Zapata	
CHRIS E BRUNN		ZAPATA	
Michael Matthews		Zapata	
M. PALERMO	M. Palermo	ECBC	
Jay Meadows	J Meadows	ECBC	
MARK LEACH	Mark	ECBC	
Bobby Samuels		BONCO	
Walter Hildreth	Walt Hildreth	ZAPATA	
Ryan O'Connell	Ryan O'Connell	TEU	
PAUL BECHTEL	Paul Bechtel	ZAPATA	
RICHARD BYRD		CEHNC	
BRETT MANSTERS	Brett Manters	TEU	
Arielle Rodriguez		TEU	
Martinez Saul	Saul Martinez	TEU	
DOC BAYSINGER	Doc Baysinger	TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/12/04

2 of 3

Zapata Engineering	Safety Meeting Attendance Log
Date: 5/12/04 Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019	Location: Holloman AFB
Weather Conditions:	

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
William STAVIS		TEU	
Jon-Michael Gore		ECBC	
Maddox, Charles		TEU	
Arriego, James O		TEU	
AVILES JA		TEU	
VINSON, A.L.		TEU	
Everett, Glenn G.		TEU	
		AMR	
JOAQUIN SILVA		AMR	
		ZAP	
ANTHONY LOCKLEAR		ZAP	
Brad Kuntz		ZAP	
Irene Richardson		USACHPPM	
Andrew Cote		ECBC	
Walter WYATT		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: See Front Page	Date:

3 OF 3

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/12/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Greg Mason	Greg Mason	CAA	
HANK HUBBARD	Hank Hubbard	CDE	
Jesse Granger	Jesse Granger	TCES	
Jarad Tucker	Jarad Tucker	ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 3

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/13/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 85° LO 51° WIND SW@9mph

I. Safety Meeting Topic(s): HYDRATION, MSDS

II. Attendees:

Name	Signature	Company	Tick(s)
Jerry Krieger		Zapata	
PAUL BECHTEL		ZAPATA	
[illegible]		ZAI	
Jean-Michael Gore		ECBC	
Joy Meadows		ECBC	
BARTL MARSTERS		TEU	
AVILES JA		TEU	
Everett Glenn G.		TEU	
VINSON, A.L.		TEU	
Arenego, James O		TEU.	
Arielle Rodriguez		TEU	
Ryan O'Connell		TEU	
William STANIS		TEU	
Joe BAYGINZER		TEU	
Martinez, Saul		TEU.	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/13/04

2 of 3

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/13/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Magretha Palspace	M. Palspace	ECBC	
Maddox Charles	[illegible]	TEU	
Mark Leach	[illegible]	ECBC	
Bobby Samuels	[illegible]	RONCO	
Brad Kuntz	[illegible]	Zapata	
Chris E Brown	[illegible]	ZAPATA	
Richard Byrd	[illegible]	CEHNC	
Anthony Lockhart	[illegible]	Zap	
Walter Hildreth	[illegible]	ZAPATA	
David Wheel	[illegible]	AMR	
[illegible] Dias	[illegible]	AMR	
Irene Richardson	[illegible]	USACHPPM	
Hank Hubbard	[illegible]	USACE	
Andrew Cote	[illegible]	ECBC	
Jarad Tucker	[illegible]	ECBC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: See Front Page	Date:

3 of 3

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/13/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
GREG MASON	Greg Mason	CMA	
Walter Wyatt	Walter Wyatt	TEU	
Jesse Granger	Jesse Granger	TCES	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/14/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions: SUNNY HI 84° WIND SW@10MPH		

I. Safety Meeting Topic(s): FENCE REMOVAL

II. Attendees:

Name	Signature	Company	Tick(s)
Curis E Brown		ZAPATA	
Jerry Krieger		Zapata	
PAUL BECHTEL		ZAPATA	
Walter Hildreth		ZAPATA	
ANTHONY LOCKLEAR		Zap	
Michael Matthews		Zapata	
AVILES III		TEU	
Michael Gore		ELBC	
Everett Glenn G.		TEU	
VINSON, A.L.		TEU	
O'Connell, Ryan		TEU	
Arielle Rodriguez		TEU	
Doc Baysinger		TEU	
William STAUS		TEU	
Maddox Charles		TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer:	Date: 5/14/04

2 OF 2

Zapata Engineering		**Safety Meeting Attendance Log**
Date: 5/14/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Martinez Saul	Saul Martinez	TEU	
Baral Masters	Baral Masters	TEU	
Richard Byrd	[illegible]	CEHNC	
Bobby Simmons	[illegible]	RONCO	
Magnolia Palomino	M. Palomino	ECBC	
Jay Meadows	J Meadows	ECBC	
Van Valdez	[illegible]	ZAP	
Mark Leach	Mark [illegible]	ECBC	
Brad Kuntz	Brad Kuntz	Zapata	
W. Fabian	[illegible]	AMR	
Annette Badjian	Annette Badjian	AMR	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: See Front Page	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/17/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 94° WIND SW @ 13 MPH

I. Safety Meeting Topic(s): WORK SITE INSPECTION

II. Attendees:

Name	Signature	Company	Tick(s)
CHRIS E BROWN		ZAPATA	
Brad Kuntz		Zapata	
Doz BAYSINGER		TEU	
[illegible]		ECBC	
Glenn Everett		TEU	
WINSON, A.L.		TEU	
Bart L Masters		TEU	
Ryan O'Connell		TEU	
Aurelio Rodriguez		TEU	
Martinez, Saul		TEU	
Walter HILDEBRAND		ZAPATA	
Joy Meadows		ECBC	
Jennifer WolfePupa		ECBC	
MARIE-THA PALEPALE		ECBC	
[illegible]		ZAP	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: [signature] Date: 5/17/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/17/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Jerry Krieger	Jerry Krieger	Zapata	
ANTHONY LOCKHEAR	[illegible]	Zap	
Manuel Matthews	[illegible]	ZAPATA	
Bob Summers	[illegible]	RONCO	
Dan Beehack	[illegible]	ZAPATA	
RICHARD BYRD	[illegible]	CEHWC	
JOAQUIN SILVA	[illegible]	AMR	
[illegible]	[illegible]	[illegible]	
William STAVIS	[illegible]	TEU	
Maddox, Charles	[illegible]	TEU	
AVILES	[illegible]	TEU	
DAVID SMITH	[illegible]	ZAPATA	
Jim Pfeiffer	[illegible]	BLACKHAWK	
Rod McCabe	[illegible]	Blackhawk	
Melanie Herkom	[illegible]	Blackhawk	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/18/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 96° LOW 61° WIND SSO @ 12MPH.

I. Safety Meeting Topic(s): HEAT STRESS MONITORING

II. Attendees:

Name	Signature	Company	Tick(s)
Jerry Krieger	Jerry Krieger	Zapata Eng	
PAM BECHTEL	[illegible]	ZAPATA	
DAVE BECKER	[illegible]	COE	
CHRIS E BROWN	[illegible]	ZAPATA	
J. Hildreth	[illegible]	ZAPATA	
[illegible]	[illegible]	ZAP	
Michael Matthews	[illegible]	ZAPATA	
Bobby Sammons	[illegible]	RONCO	
Rod McCabe	[illegible]	Blackhawk	
ANTHONY LOCKHER	[illegible]	Zap	
DAVID SMITH	[illegible]	ZAPATA	
Brad Kunte	[illegible]	Zapata	
Melanie Vierkorn	[illegible]	Blackhawk	
Debra Edwards	[illegible]	COE	
Jim Pfeiffer	[illegible]	BLACKHAWK	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: [illegible]	Date: 5/18/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/18/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Doc Baysinger		TEU	
Ryan O'Connell		TEU	
Vinson, A.L.		TEU	
Bart L Marsters		TEU	
Margarita Rodriguez		ECBC	
William Stavo		TEU	
Aviles Jr		TEU	
Martinez, Saul		TEU	
Arielle Rodriguez		TEU	
Maddox, Charles		TEU	
[illegible]		ECBC	
Everett Glem		TEU	
John Dietz		ECBC	
Donald Schumer		AMR	
Christy Grant		AMR	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: See Front Page	Date:

Jennifer Wolfe Pupa — ECBC
RICHARD BYRD — CEHNC

1 OF 2

Zapata Engineering		**Safety Meeting Attendance Log**
Date: 5/19/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 96° LO 65° WIND SSW @ 12 MPH

I. Safety Meeting Topic(s): SMOKING AREA, SNAKES

II. Attendees:

Name	Signature	Company	Tick(s)
Jerry Krieger		Zapata	
ANTHONY LOCKHEAR		Zap	
Brad Kuntz		ZAP	
Chris E Gerard		ZAP SW	
Michael Matthews		ZAPATA	
Walter Hildreth		ZAPATA	
PAUL BEERTER		ZAPATA	
Rod McCabe		Blackhawk	
DAVID SMITH		ZAPATA	
Debra Edwards		COE	
Bob Samaroos		RONCO	
Melanie Vierkorn		Blackhawk	
Jim Pfeiffer		BLACKHAWK	
Jim Vasquez		ZAP	
Ryan O'Connell		TEC	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: Date: 5/19/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5-19-04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB
Weather Conditions:		

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Jon-Michael Gore		ECBC	
DAVE BECKER		CEHWC	
Don Bayanga		TEU	
Hinson, A.L.		TEU	
Mark Martes		TEU	
Margretha Palgbye		ECBC	
Arielle Rodriguez		TEU	
William STAVIS		TEU	
JOHN DIETZ		ECBC	
Glenn Everett		TEU	
AVILES		TEU	
Maddox, Charles		TEU	
Martinez, Saul		TEU	
Pupa, Jennifer E		ECBC	
Darby, Joel		AMR	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

Morgan, Angela — AMR

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/20/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 94°, LO 67° WIND SSW @ 14 MPH

I. Safety Meeting Topic(s): CAIS KITS

II. Attendees:

Name	Signature	Company	Tick(s)
Chris C Brown		ZAPATA	
Walter Hildreth		ZAPATA	
DAVID SMITH		ZAPATA	
ANTHONY LOCKLEAR		Zapata	
Bobby Sammons		RONCO	
DAVE BEKER		CEHNC	
Debra Edwards		CEHNC	
Jim Pfeiffer		BLACKHAWK	
Melanie Vierkant		BLACKHAWK	
Rod McCabe		" "	
Brad Kuntz		Zapata	
JOHN DIETZ		ECBC	
MARGRETHA PALERMO		ECBC	
Ryan O'Connell		TEU	
BRETT MARSTERS		TEU	

III. Verification:
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Site Safety Officer: Date: 5/20/04

2 OF 2

Zapata Engineering	Safety Meeting Attendance Log
Date: 5/20/04 Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019	Location: Holloman AFB
Weather Conditions:	

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
Maddox, Charles	Charles Maddox	TEU	
William STAVIS		TEU	
Don BAYSINGER	Don Baysinger	TEU	
Arielle Rodriguez		TEU	
Martinez, Saul	Saul Martinez	TEU	
Vinson, A.L.	A.L. Vinson	TEU	
AVILES SA		TEU	
Everett Glenn G.		TEU	
Jon-Michael Gore		ECBC	
Jennifer Pupa	Jennifer Elizabeth Pupa	ECBC	
WALTER L. GABIAK		AMR	
Annette Badjar	Annette Badjar	AMR.	
[illegible]		ZAP	
Michael Matthews		ZAPATA	
Jerry Kreger	Jerry Kreger	ZAPATA	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

1 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/21/04	Time: 0530	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 94° WINDS SSW @ 16mph

I. Safety Meeting Topic(s): HOSPITAL ROUTE, HOUSEKEEPING

II. Attendees:

Name	Signature	Company	Tick(s)
WALTER H. Idreth	Walt Hildreth	ZAPATA	
Brad Kuntz	Brad Kuntz	Zapata	
Jerry Krieger	Jerry Krieger	Zapata	
Bobby Simmons	[illegible]	RONCO	
ANTHONY LOCKHEAR	[illegible]	Zap	
Michael Matthews	[illegible]	ZAPATA	
Melanie Vierkorn	Melanie Vierkorn	BLACKHAWK	
Rod McCabe	Rod McCabe	" "	
Jim Hooser	[illegible]	ZAP	
Dee Braswell	Dee Braswell	TEU	
Ryan O'Connell	Ryan O'Connell	TEU	
Arielle Rodriguez	[illegible]	TEU	
DAVE BECKER	Dave Becker	CEHNC	
Vinson, A.L.	A.L. Vinson	TEU	
ARILES JR	[illegible]	TEU	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: [illegible]	Date: 5/21/04

2 OF 2

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/21/04	Time:	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions:

I. Safety Meeting Topic(s):

II. Attendees:

Name	Signature	Company	Tick(s)
William STAVIS		TEU	
John Dietz		ECBC	
Martinez, Saul		TEU	
Maddox, Charles		TEU	
MAGRETHA PALEPALE		BCSE	
Barbe Masters		TEU	
Glenn Evenere		TEU	
Jon-Michael Cox		ECB	
Steven Freeland		ECBC	
Jennifer Pupa	Jennifer Wolfe Pupa	ECBC	
Debra Edwards		CEHNC	
DAVID SMITH	DA Smith	ZAPATA	
Jim Pfeiffer		BLACKHAWK	
CHRIS E BROWN		ZAPATA	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: SEE FRONT PAGE	Date:

Zapata Engineering		Safety Meeting Attendance Log
Date: 5/22/04	Time: 0630	Contract Number: DACA87-00-D-0034
Delivery Order Number: 0019		Location: Holloman AFB

Weather Conditions: SUNNY HI 92° WIND SSW @ 25

I. Safety Meeting Topic(s): HIGH WIND

II. Attendees:

Name	Signature	Company	Tick(s)
Rod McCabe	Rod McCabe	Blackhawk	
Jim Pfeiffer	Jim Pfeiffer	BLACKHAWK	
Debra Edwards	Debra Edwards	CEHNC	
Melanie Vierkorn	Melanie Vierkorn	Blackhawk	
DAVID SMITH	DA Smith	ZAPATA	

III. Verification:
I certify that the personnel listed on this roster received the briefing described above. Site personnel not present for this meeting will be briefed prior to the beginning of their duties.

Site Safety Officer: [signature] Date: 5/22/04

1 of 2

Safety Meeting Attendance Log

Date: 5/24/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	63° SUNNY HI 92° WIND SW@15	
Safety Meeting Topic (Briefly describe)	WEEKLY SAFETY CHECKS	
Attendees:		

	Name	Signature	Organization
✓	**Bechtel Paul**		Zapata
	Brown, Chris		Zapata
	Hildreth, Walter	Walt Hildreth	Zapata
✓	**Krieger, Jerry**		Zapata
	Kuntz, Brad		Zapata
	Locklear, Anthony		Zapata
✓	**Matthews, Mike**		Zapata
	Smith, David	OFF-SITE	Zapata
✓	**Valdez, Val**		Zapata
✓	**O'Connell, Ryan**		TEU
✓	**Aviles, Julio**		TEU
	Baysinger, Henry (Doc)	Doc Baysinger	TEU
	Everett, Glenn ✓		TEU
	Maddox, Charles		TEU
	Marsters, Bart ✓		TEU
	Martinez, Saul		TEU
	Rodriguez, Arielle		TEU
	Stavis, William		TEU

5/24/04 2 of 2

Attendees:		
Name	**Signature**	**Organization**
✓ **Vinson, Alfred Jr.**	A.L. Vinson	TEU
Pupa, Jennifer	Jennifer Wolfe Pupa	ECBC
✓ **Dietz, John**		ECBC
Gore, John-Micheal		ECBC
Pfeiffer, Jim	OFF-SITE	Blackhawk
McCabe, Rod	OFF-SITE	Blackhawk
Vierkorn, Melanie	OFF-SITE	Blackhawk
Byrd, Richard	OFF-SITE	CEHNC
Edwards, Debra	OFF-SITE	CEHNC
		AMR
		AMR
✓ SAMMONS, Bobby		RONCO
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 5/25/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	70° SUNNY HI 91° WIND SW @ 16 MPH	
Safety Meeting Topic (Briefly describe)	DOWN RANGE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Kuntz, Brad		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Smith, David	OFF SITE	Zapata
Valdez, Val		Zapata
O'Connell, Ryan		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU
Martinez, Saul		TEU
Rodriguez, Arielle		TEU
Stavis, William		TEU

5/25/04 2 of 2

Attendees:		
Name	**Signature**	**Organization**
Vinson, Alfred Jr.	A. L. Vinson	TEU
Pupa, Jennifer	Jennifer Wolfe Pupa	ECBC
Dietz, John		ECBC
Gore, John-Micheal		ECBC
Kathern, Theodon	Theodon Kathern	ECBC
Pfeiffer, Jim	Jim Pfeiffer OFF SITE	Blackhawk
McCabe, Rod	OFF SITE ~~OFF SITE~~	Blackhawk
Vierkorn, Melanie	Melanie Vierkorn ~~OFF SITE~~	Blackhawk
Byrd, Richard		CEHNC
Edwards, Debra	OFF SITE	CEHNC
Carl Jeper.	Carl Jeper.	AMR
↑		AMR
Jeff Kyce		AMR
SAMMONS, BOBBY		RONCO
Verified by:		
Glen T. Farmer		
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 5/26/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	70° HI 90° WIND SW @ 16 MPH	
Safety Meeting Topic (Briefly describe)	DOWN RANGE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Kuntz, Brad	OFF SITE	Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Smith, David	OFF SITE	Zapata
Valdez, Val		Zapata
O'Connell, Ryan		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU
Martinez, Saul		TEU
Rodriguez, Arielle		TEU
Stavis, William		TEU

5/26/04

2 of 2

Attendees:		
Name	**Signature**	**Organization**
Vinson, Alfred Jr.	A L Vinson	TEU
Pupa, Jennifer	Jennifer Wolfe Pupa	ECBC
Dietz, John	John Dietz	ECBC
Gore, John-Micheal		ECBC
TATHEM, THEDRON	Theodon Tathem	ECBC
Pfeiffer, Jim	OFF SITE	Blackhawk
McCabe, Rod	OFF SITE	Blackhawk
Vierkorn, Melanie	OFF SITE	Blackhawk
Byrd, Richard		CEHNC
Edwards, Debra	OFF SITE	CEHNC
JOAQUIN SILVA		AMR
		AMR
SAMMONS, BOBBY		RONCO
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 5/27/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	65° CLOUDY HI 83° WIND WSW @ 12 MPH	
Safety Meeting Topic (Briefly describe)	INCLEMENT WEATHER/GRID SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
~~**Kuntz, Brad**~~	OFF SITE	Zapata
Locklear, Anthony	LV	Zapata
Matthews, Mike		Zapata
Smith, David	OFF SITE	Zapata
Valdez, Val		Zapata
O'Connell, Ryan		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU
Martinez, Saul		TEU
Rodriguez, Arielle		TEU
Stavis, William		TEU

5/27/04

2 of 2

Attendees:		
Name	**Signature**	**Organization**
Vinson, Alfred Jr.	A.L. Vinson	TEU
Pupa, Jennifer	Jennifer Pupa	ECBC
Dietz, John		ECBC
Gore, John-Micheal		ECBC
TATUEM, THEDRON		ECBC
Pfeiffer, Jim	OFF SITE	Blackhawk
McCabe, Rod	OFF SITE	Blackhawk
Vierkorn, Melanie	OFF SITE	Blackhawk
Byrd, Richard		CEHNC
Edwards, Debra	OFF SITE	CEHNC
David Wheeler		AMR
David Carter		AMR
SAMMONS, BOBBY	OFF SITE	RONCO
BURHANS, STEVE		ZAPATA
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 5/28/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	60° SUNNY HI 93° WIND SW @ 11 MPH	
Safety Meeting Topic (Briefly describe)	DOWN RANGE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Kuntz, Brad	OFFSITE	Zapata
Locklear, Anthony	LEAVE	Zapata
Matthews, Mike		Zapata
Smith, David	OFFSITE	Zapata
Valdez, Val		Zapata
O'Connell, Ryan		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles	OFF SITE	TEU
Marsters, Bart		TEU
Martinez, Saul		TEU
Rodriguez, Arielle		TEU
Stavis, William		TEU

5/28/04 2 of 2

Attendees:		
Name	**Signature**	**Organization**
Vinson, Alfred Jr.	A. L. Vinson	TEU
Pupa, Jennifer	OFF SITE	ECBC
Dietz, John	John Dietz	ECBC
Gore, ~~John~~ Jon-Micheal		ECBC
TATUEM, THEORON	Theoron Tatuem	ECBC
Pfeiffer, Jim	OFF SITE	Blackhawk
McCabe, Rod	OFF SITE	Blackhawk
Vierkorn, Melanie	OFF SITE	Blackhawk
Byrd, Richard		CEHNC
Edwards, Debra	OFF SITE	CEHNC
Carter, David	David R Carter	AMR
Jeff Joyce		AMR
SAMMONS, BOBBY		RONCO
BURHAN, STEVE		ZAPATA
Carl Jeper	Carl Jeper	AMR
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 6/2/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	64° SUNNY HI 102° WIND SSW @ 9 MPH	
Safety Meeting Topic (Briefly describe)	DOWN RANGE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Nathan Reel ~~**Kuntz, Brad**~~		Zapata 220 704 617 3218
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Smith, David	OFF SITE	Zapata
Valdez, Val		Zapata
O'Connell, Ryan		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU
Martinez, Saul		TEU
Rodriguez, Arielle		TEU
Stavis, William		TEU

6-2-04

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Attendees:		
Name	**Signature**	**Organization**
Vinson, Alfred Jr.	A. L. Vinson	TEU
MARK LEACH ~~**Pupa, Jennifer**~~	Mark Leach	ECBC 106
Dietz, John	John Dietz	ECBC 122
Gore, John-Micheal	OFF SITE	ECBC
TATUM, THEORON	Theoron Tatum	ECBC 261 443-803-3599
Fortier, James	James Fortier	ECBC 121 443-910-3847
Pfeiffer, Jim	OFF SITE	Blackhawk
McCabe, Rod	OFF SITE	Blackhawk
Vierkorn, Melanie	OFF SITE	Blackhawk
Byrd, Richard	[illegible]	CEHNC
Edwards, Debra	OFF SITE	CEHNC
Angela Morgan	Angela Morgan	AMR
David Schaeler	[illegible]	AMR
SAMMONS, BOBBY	[illegible]	RONCO
BURHANS, STEVE	[illegible]	ZAPATA
Verified by:		
Glen T. Farmer		
Site Safety and Health	[illegible]	Zapata

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Safety Meeting Attendance Log

Date: 6/3/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	74° SUNNY HI 99° WIND SSE @ 19 mph	
Safety Meeting Topic	CWM/DE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Reel, Nate		Zapata
Sammons, Bobby		Zapata (RONCO)
Smith, David	OFF SITE	Zapata
Valdez, Val		Zapata
O'Connell, Ryan		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU
Martinez, Saul		TEU

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Rodriguez, Arielle		TEU	
Stavis, William		TEU	
Vinson, Alfred Jr.		TEU	
Leach, Mark		ECBC	
Dietz, John		ECBC	
Fortier, James		ECBC	
Tatuem, Theoron		ECBC	
		Blackhawk	
McCabe, Rod		Blackhawk	
Vierkorn, Melanie		Blackhawk	
Byrd, Richard		CEHNC	
Angela Morgan		AMR	
Joel Darby		AMR	
Verified by:			
Glen T. Farmer			
Site Safety and Health		Zapata	

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Safety Meeting Attendance Log

Date: 6/4/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	65° HI 95° WIND SE 9 MPH	
Safety Meeting Topic	DOWN RANGE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Reel, Nate		Zapata
Sammons, Bobby		Zapata (RONCO)
Smith, David	OFF SITE	Zapata
Valdez, Val		Zapata
O'Connell, Ryan		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU
Martinez, Saul		TEU

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Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.		TEU
Leach, Mark		ECBC
Dietz, John		ECBC
Fortier, James		ECBC
Tatuem, Theoron		ECBC
		Blackhawk
McCabe, Rod	OFF SITE	Blackhawk
Vierkorn, Melanie	OFF SITE	Blackhawk
Byrd, Richard		CEHNC
		AMR
Angela Morgan		AMR
Verified by:		
Glen T. Farmer		
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 6/7/09	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	81° SUNNY HI 100° WIND WSW @ 8MPH	
Safety Meeting Topic	HYDRATION, SNAKES	

Attendees:

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Reel, Nate		Zapata
Sammons, Bobby		Zapata (RONCO)
Smith, David	OFF SITE	Zapata
Valdez, Val		Zapata
O'Connell, Ryan	OFF SITE	TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU
Martinez, Saul		TEU

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Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.	A.L. Vinson	TEU
Leach, Mark		ECBC
Dietz, John		ECBC
Fortier, James		ECBC
JEREMY MASON ~~**Tatuem, Theoron**~~		ECBC
		Blackhawk
McCabe, Rod	OFF SITE	Blackhawk
Vierkorn, Melanie	OFF SITE	Blackhawk
Byrd, Richard		CEHNC
Angela Morgan	Angel Morgan	AMR
~~Janet~~ Mauro	Janet Mauro	AMR
Verified by:		
Glen T. Farmer		
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 06/08/07	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	71° SUNNY HI 98° WIND SW @ 8 mph	
Safety Meeting Topic	GEOPHYSICAL SURVEY HAZARDS	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Reel, Nate		Zapata
Sammons, Bobby		Zapata (RONCO)
Smith, David		Zapata
Valdez, Val		Zapata
Martinez, Saul		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU

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Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.		TEU
Leach, Mark		ECBC
Dietz, John		ECBC
Fortier, James		ECBC
Mason, Jeremy		ECBC
Meglich, Todd		Blackhawk
McCabe, Rod		Blackhawk
Vierkorn, Melanie		Blackhawk
Byrd, Richard		CEHNC
		AMR
Angela Morgan		AMR
~~Rod McCabe~~	~~Rod McCabe~~	~~BLACKHAWK~~
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 06/09/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	20° SUNNY HI 97° WINDS SSW @ 13 MPH	
Safety Meeting Topic	DOWN RANGE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter	Walter Hildreth	Zapata
Krieger, Jerry		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Reel, Nate		Zapata
Sammons, Bobby		Zapata (RONCO)
Smith, David	DA Smith	Zapata
Valdez, Val		Zapata
Martinez, Saul		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU

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Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.	A. L. Vinson	TEU
Leach, Mark		ECBC
Dietz, John		ECBC
Fortier, James	James Fortier	ECBC
Mason, Jeremy		ECBC
Meglich, Todd		Blackhawk
McCabe, Rod		Blackhawk
Vierkorn, Melanie		Blackhawk
Byrd, Richard		CEHNC
Selfridge, Bob	R. J. Selfridge	CEHNC
Donald Schumer		AMR
Vince Diaz		AMR
Verified by:		
Glen T. Farmer		
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 06/10/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	71° SUNNY HI 93° WIND SW @ 13 MPH	
Safety Meeting Topic	HEAT STRESS	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Reel, Nate		Zapata
Sammons, Bobby		Zapata (RONCO)
Smith, David		Zapata
Valdez, Val		Zapata
Martinez, Saul		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU

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Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.	A. L. Vinson	TEU
Leach, Mark		ECBC
Dietz, John		ECBC
Fortier, James	James Fortier	ECBC
Mason, Jeremy		ECBC
Meglich, Todd		Blackhawk
McCabe, Rod	Rod McCabe	Blackhawk
Vierkorn, Melanie		Blackhawk
Byrd, Richard		CEHNC
Selfridge, Bob	R.J. Selfridge	CEHNC
WALTER L. FABIAN		AMR
Christy Grant		AMR
Verified by:		
Glen T. Farmer		
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 6/14/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	66° SUNNY HI 103° WIND S @ 7mph	
Safety Meeting Topic	INTRUSIVE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Krieger, Jerry	OFF SITE	Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Reel, Nate	OFF SITE	Zapata
Sammons, Bobby		Zapata (RONCO)
Smith, David	OFF SITE	Zapata
Valdez, Val	OFF SITE	Zapata
Martinez, Saul		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU

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Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.	A. L. Vinson Jr.	TEU
Leach, Mark		ECBC
Gary Jon-Michael ~~**Dietz, John**~~		~~ECBC~~
Giles, Robin ~~**Fortier, James**~~		ECBC
Mason, Jeremy		ECBC
Meglich, Todd	OFF SITE	Blackhawk
McCabe, Rod	OFF SITE	Blackhawk
Vierkorn, Melanie	OFF SITE	Blackhawk
Byrd, Richard		CEHNC
Joel Darby		AMR
Annette Badyár		AMR
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 6/15/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	68° SUNNY HI 102° WIND SSW @ 12 MPH	
Safety Meeting Topic	HYDRATION	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val	OFF SITE	Zapata
Martinez, Saul		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU

Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.		TEU

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Leach, Mark		ECBC
Giles, Robin		ECBC
Gore, Jon-Michael		ECBC
Mason, Jeremy		ECBC
Byrd, Richard		CEHNC
Joel Darby		AMR
Carter, David		AMR
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 6/16/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	68° SUNNY HI 104° WIND SSW @ 18 MPH	
Safety Meeting Topic	DOWN RANGE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Martinez, Saul		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU
Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.		TEU

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Leach, Mark		ECBC
Giles, Robin		ECBC
Gore, Jon-Michael	DOWN RANGE	ECBC
~~**Mason, Jeremy**~~		ECBC
Tatum Theodore		ECBC
Byrd, Richard		CEHNC
Jeff Joyce		AMR
James Leach		AMR
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 6/17/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	80° SUNNY HI 98° WIND SSW @ 11 MPH	
Safety Meeting Topic	DOWN RANGE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Martinez, Saul		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Everett, Glenn		TEU
Maddox, Charles		TEU
Marsters, Bart		TEU

Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.		TEU

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Leach, Mark		ECBC
Giles, Robin		ECBC
Gore, Jon-Michael	DR	ECBC
~~**Mason, Jeremy**~~	OFF SITE	ECBC
TATUM, THEORON		ECBC
Byrd, Richard		CEHNC
Joel Darby		AMR
J. McCollum		AMR
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Attendees	**Continuation Sheet**	**Date:**
Name	**Signature**	**Organization**
WARREN L. SMITH		TEU
JOHN TOBIAS		TEU
PINO, ANTHONY		TEU

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Safety Meeting Attendance Log

Date: 6/18/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	82° Sunny Hi 99° Wind South @ 16 mph	
Safety Meeting Topic	WEEK-END SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Hildreth, Walter		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Marsters, Bart		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Stavis, William		TEU
Tobler, John		TEU
Vinson, Alfred Jr.	A. L. Vinson	TEU

6/18/04

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Leach, Mark		ECBC
Giles, Robin		ECBC
Gore, Jon-Michael		ECBC
JATUERS, THEODORE ~~**Mason, Jeremy**~~		ECBC
WALL, MARK		FEY
Byrd, Richard		CEHNC
Badjar, Annette	Annette Badjar	AMR
James Adams		AMR
Joel Darby		AMR
Joshua Landry		AMR
Verified by:		
Glen T. Farmer **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 6/21/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	H: 97° Mostly Cloudy Wind S. 3mph	
Safety Meeting Topic	NEW WEEK SAFETY briefing	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Marsters, Bart		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Stavis, William		TEU
Tobler, John		TEU
Vinson, Alfred Jr.		TEU

6/21/04 2 of 2

		ECBC
Giles, Robin	Robin Giles	ECBC
Fackett, James	J. Fackett	ECBC
Privett, Arlita	Arlita Privett	ECBC
STOLTZ, Frank	Frank Stoltz	ECBC
Bredison, Scott	Scott Bre	ECBC
Byrd, Richard		CEHNC
Donald Schm		AMR
Christy Grant	C Grant	AMR
Vincent Dias		Ame
Jeff Joyce		Ame
Verified by:		
Walter Hildreth	Walter Hildreth	
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 6/22/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	Hi 86° Mostly Cloudy Wind S. 6mph 10% Rain	
Safety Meeting Topic	Downrange Safety	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
~~**Everett, Glenn**~~		~~TEU~~
Pino, Anthony		TEU
Marsters, Bart		TEU

Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.		TEU
Smith, Warren		TEU
Tobler, John		TEU

6/22/04 2 of 2

Fackett, James		ECBC
Giles, Robin		ECBC
Privett, Arlita		ECBC
Stoltz, Frank		ECBC
Bredeson, Scott		ECBC
Byrd, Richard		CEHNC
WALTER C FABIAN		AMR
CARTER, DAVID		AMR
Verified by:		
Walter Hildreth		
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 6/23/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	Hi 88° isolated T-Storms 30° rain, Wind S, SW 6mph	
Safety Meeting Topic	Downrange briefing	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Pino, Anthony		TEU
Marsters, Bart		TEU
Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.		TEU
Smith, Warren		TEU
Tobler, John		TEU
Fackett, James		ECBC

6/23/04 2 of 2

Giles, Robin		ECBC
Privett, Arlita		ECBC
Stoltz, Frank		ECBC
Bredeson, Scott		ECBC
Byrd, Richard		CEHNC
Angela Morgan		AMR
		AMR
Verified by:		
Walter Hildreth **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 6/24/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	Hi 91° Isolated T Storms, 30% rain wind Calm	
Safety Meeting Topic	Downrange Safety	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Pino, Anthony		TEU
Marsters, Bart		TEU
Rodriguez, Arielle		TEU
Stavis, William		TEU
Vinson, Alfred Jr.		TEU
Smith, Warren		TEU
Tobler, John		TEU
Fackett, James		ECBC

6/24/04 2 of 2

Giles, Robin	Robin Giles	ECBC
Privett, Arlita	Arlita Privett	ECBC
Stoltz, Frank	Frank Stoltz	ECBC
Bredeson, Scott	Scott Bred	ECBC
Byrd, Richard		CEHNC
Donald Schu		AMR
Christy Grant	Grant	AMR
Verified by:	Walter Hildreth	
Walter Hildreth **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 6/25/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	Hi 91° Isolated T Storms, Wind NE 5mph 30% Rain	
Safety Meeting Topic	DOWNRANGE SAFETY	
Attendees:		

	Name	Signature	Organization
	Bechtel Paul		Zapata
	Brown, Chris		Zapata
	Burhans, Steve		Zapata
	Locklear, Anthony		Zapata
	Matthews, Mike		Zapata
	Sammons, Bobby		Zapata (RONCO)
	Valdez, Val		Zapata
	Wall, Mark		TEU
	Aviles, Julio		TEU
✓	**Baysinger, Henry (Doc)**		TEU
	Pino, Anthony		TEU
✓	**Marsters, Bart**		TEU

	Rodriguez, Arielle		TEU
	Stavis, William		TEU
✓	**Vinson, Alfred Jr.**		TEU
	Smith, Warren		TEU
	Tobler, John		TEU
	Fackett, James		ECBC

6/25/04 2 of 2

√ **Giles, Robin**	Robin Giles	ECBC
Privett, Arlita	Arlita Privett	ECBC
Stoltz, Frank		ECBC
Bredeson, Scott	Scott Bre	ECBC
Byrd, Richard		CEHNC
WALTER C. GABIAN	W. G	AMR
King Jeffery		~~AMR~~ C. CO TECH
ELLIS Bryan		C CO TECH
Annette Badjar	Annette Badjar	AMR.
Verified by:		
Walter Hildreth	Walter Hildreth	
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 6/28/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	Hi 86° Scattered T-Storms 40% Rain Wind S 13mph	
Safety Meeting Topic	New Week, Downrange	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
King, Jeffery		TEU
Pino, Anthony		TEU
Ellis, Bryan		TEU
Rodriguez, Arielle		TEU
~~Stavic, William~~		TEU
		TEU
Smith, Warren		TEU
Tobler, John		TEU
Fackett, James		ECBC

6-28-04 2 OF 2

		ECBC
Privett, Arlita		ECBC
Stoltz, Frank		ECBC
Bredeson, Scott		ECBC
Byrd, Richard		CEHNC
Annette Badjar		AMR
		AMR
GRANT, Chad		TEU
MAY, James		TEU
Verified by:		
Walter Hildreth **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 6/29/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	Hi 98° Poss T-STORMS	
Safety Meeting Topic	CHEMICAL WARNING PROPERTIES	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony	Anthony R Locklear	Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
King, Jeffery		TEU
Pino, Anthony		TEU
Ellis, Bryan		TEU
Rodriguez, Arielle		TEU
Grant, Ghad		TEU
May, James		TEU FOU
Smith, Warren		TEU
Tobler, John		TEU
Fackett, James		ECBC

6/29/04 2 OF 2

		ECBC
Privett, Arlita	Arlita Privett	ECBC
Stoltz, Frank		ECBC
Bredeson, Scott		ECBC
Byrd, Richard		CEHNC
		AMR
Annette Bodjar	Annette Bodjar	AMR
Verified by:		
~~**Walter Hildreth**~~ for **Site Safety and Health** MIKE MATTHEWS		Zapata

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Safety Meeting Attendance Log

Date: 6/30/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	62°/90° P cloud, W@ 10-15 mph	
Safety Meeting Topic	down Range Safety, Slips Trips + Falls.	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
Baysinger, Henry (Doc)		TEU
Marsters, Bart		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Stavis, William		TEU
Tobler, John		TEU
Vinson, Alfred Jr.		TEU

6/30

2

		ECBC
Giles, Robin		ECBC
PRIVETT, ARLITA	Arlita Privett	ECBC
Fackett James	J Fackett	ECBC
Bradeson, Scott	Scott Bra	ECBC
~~Ed~~ STOLTZ Frank		ECBC
Byrd, Richard		CEHNC
Joel Darby	Joel Darby	AMR
Angela Morgan	Angela Morgan	AMR
Bryan Ellis		TEU
King Jeffery		TEU
GRANT Gheed		TEU
MARY, SHAWN		TEU
Verified by:		
~~**Walter Hildreth**~~ **Site Safety and Health** Michael W. Matthews		Zapata

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Safety Meeting Attendance Log

Date: 07/01/04	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	Mostly Sunny L95 H62 C Temp 56.8 BP 30.09 ~ Winds @ 10 mph	
Safety Meeting Topic	Packaging OPS Sampling OPS Temp	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
May, Jim		TEU
Grant, Ghed		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Ellis, Bryon		TEU
Tobler, John		TEU
King, Jeffery		TEU

2

7/1/04

Stoltz, Frank		ECBC
Privett, Arlita		ECBC
Fackett, James		ECBC
Bredeson, Scott		ECBC
Byrd, Richard		CEHNC
CARL LOPER.		AMR
JEFF JOYCE		AMR
Verified by:		
Michael Matthews **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 07/07/07	**Time:** 0530	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	97M67L 72°C P Cloud WNW@11 29.99N	
Safety Meeting Topic	EYE PROTECTION/HYDRATION	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Martinez, Sal		TEU
Aviles, Julio		TEU
May, Jim		TEU
Grant, Ghed		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Ellis, Bryan		TEU
Tobler, John		TEU
King, Jeffery		TEU

7/7/04

2

Weil, Denver		ECBC
Elliott, Laura	Laura Elliott	ECBC
Palepale, Mo	Mo Palepale	ECBC
Taylor, Craig		ECBC
Byrd, Richard		CEHNC
Bodjar, Annette	Annette Bodjar	AMR
		AMR
Cook Charles C	Charles C Cook	TEQ
Verified by:		
Michael Matthews		
Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 07/08/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	98/67/72c Part Cloud 29.96	
Safety Meeting Topic	INSECTS/SUNBURN	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Martinez, Sal	Signed on Back	TEU
Aviles, Julio		TEU
May, Jim		TEU
Grant, Ghed		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Ellis, Bryan		TEU
Tobler, John		TEU
King, Jeffery		TEU

7/8/04 2

Weil, Denver	Denver Weil	ECBC
Elliott, Laura	Laura Elliott	ECBC
Palepale, Mo	Mo Palepale	ECBC
Taylor, Craig	GRT	ECBC
Byrd, Richard		CEHNC
		AMR
		AMR
JOAQUIN SILVA	AMR	
Cook Charles C		TEU
Martinez Saul		TEU
Verified by:		
Michael Matthews **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 07/09/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	95^ 65 L 68c Part Cloud 55E@10	
Safety Meeting Topic	HAZARD COMMUNICATIONS	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Martinez, Sal		TEU
Aviles, Julio		TEU
May, Jim		TEU
Grant, Ghed		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Ellis, Byron		TEU
Tobler, John		TEU
King, Jeffery		TEU

7/9/04 2

Weil, Denver		ECBC
Elliott, Laura		ECBC
Palepale, Mo		ECBC
Taylor, Craig		ECBC
Byrd, Richard		CEHNC
		AMR
Carter, David		AMR
Charles C. Cook		TGR
Verified by:		
Michael Matthews **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 07/12/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	101 A 70 V/30.05 A/150 T-Storms	
Safety Meeting Topic	LIGHTNING	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Wall, Mark		TEU
Aviles, Julio		TEU
May, Jim		TEU
Grant, Ghad		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Ellis, Bryon		TEU
Tobler, John		TEU
King, Jeffery		TEU

7/12/04

2

Stolotz, Frank		ECBC
Privett, Arlita		ECBC
Fackett, James		ECBC
Bredeson, Scott		ECBC
Byrd, Richard		CEHNC
Badjar, Annette	Annette Badjar	AMR
Leach, James		AMR
		TEU
Weil, Denver	Denver Weil	ECBC
Elliott, Lavera	L Elliott	ECBC
PALEPALE MAGRETHA		ECBC
TAYLOR, CRAIG		ECBC
Verified by:		
Michael Matthews Site Safety and Health		Zapata

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Safety Meeting Attendance Log

Date: 07/13/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	97^ 68c PCloudy 55@5-10	
Safety Meeting Topic	VEHICLE SAFETY	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Martinez, Sal		TEU
Aviles, Julio		TEU
May, Jim		TEU
Grant, Ghed		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Ellis, Bryon		TEU
Tobler, John		TEU
King, Jeffery		TEU

7/13/04

2

Weil, Denver		ECBC
Elliott, Laura		ECBC
Palepale, Mo		ECBC
Taylor, Craig		ECBC
Byrd, Richard		CEHNC
Badjar, Annette		AMR
Darby, Joel		AMR
Verified by:		
Michael Matthews **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 07/14/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	95\68 Most. Sun WSW@ 10-15	
Safety Meeting Topic	GENERAL SAFETY FOR SITE OPERATIONS	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Martinez, Sal		TEU
Aviles, Julio		TEU
May, Jim		TEU
Grant, Ghed		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Ellis, Bryon		TEU
Tobler, John		TEU
King, Jeffery		TEU

7/14/04

2

Weil, Denver		ECBC
Elliott, Laura		ECBC
Palepale, Mo		ECBC
Taylor, Craig		ECBC
Byrd, Richard		CEHNC
		AMR
		AMR
Verified by:		
Michael Matthews **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 07/05/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	N 96 L 70 SSW@10 150 T-Storms	
Safety Meeting Topic	HEAT INJURIES	
Attendees:		

Name	Signature	Organization
Bechtel Paul		Zapata
Brown, Chris		Zapata
Burhans, Steve		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Sammons, Bobby		Zapata (RONCO)
Valdez, Val		Zapata
Martinez, Sal		TEU
Aviles, Julio		TEU
May, Jim		TEU
Grant, Ghed		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Ellis, Bryon		TEU
Tobler, John		TEU
King, Jeffery		TEU

7/15/07 2

Weil, Denver		ECBC
Elliott, Laura		ECBC
Palepale, Mo		ECBC
Taylor, Craig		ECBC
Byrd, Richard		CEHNC
		AMR
		AMR
Verified by:		
Michael Matthews **Site Safety and Health**		Zapata

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Safety Meeting Attendance Log

Date: 07/16/04	**Time:**	**Contract Number: DACA87-00-D-0034**
Delivery Order Number: 0019	**Location: Holloman AFB**	
Weather Conditions: (Low/High Temp, Wind/Speed/Dir) (Severe Weather)	96/72 P Cloud WSW@10	
Safety Meeting Topic	SLIPS, TRIPS, FALLS	
Attendees:		

Name	Signature	Organization
Brown, Chris		Zapata
Locklear, Anthony		Zapata
Matthews, Mike		Zapata
Martinez, Sal		TEU
May, Jim		TEU
Grant, Ghed		TEU
Pino, Anthony		TEU
Rodriguez, Arielle		TEU
Smith, Warren		TEU
Weil, Denver		ECBC
Elliott, Laura		ECBC
Palepale, Mo		ECBC
Taylor, Craig		ECBC
Byrd, Richard		CEHNC
Verified by:		
Michael Matthews Site Safety and Health		Zapata

SAFETY CHECKLISTS FOR MOTOR VEHICLES

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: Holloman
CONTRACT:
TASK ORDER#:
TEAM#: 1
TEAM LEADER: WALTER HILDRETH

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
3 MAY 04	✓	✓	Fire ext missing Tag	Replaced
4 MAY 04	✓	✓	✓	
5 MAY 04	✓	✓	✓	RUNS POORLY
6 MAY 04	✓	✓	✓	NEW TRUCK START MILEAGE 52347
7 May 04	✓	✓	✓	
10 May 04	✓	✓	✓	
11 MAY 04	✓	✓	✓	
12 MAY 04	✓	✓	✓	52653
17 MAY 04	✓	✓	✓	53030
5/18/04	✓	✓	✓	53056
5/19/04	✓	✓	✓	53127

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN AFB CONTRACT:
TASK ORDER#:

TEAM#: SAFETY TEAM LEADER: T. FARMER

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
5/03/04	SAT	SAT	SAT	FIRE EXT. NEEDS TAG
5/04/04	SAT	SAT	SAT	
5/05/04	SAT	SAT	SAT	
5/06/04	SAT	SAT	SAT	
5/03/04	SAT	SAT	SAT	
5/10/04	SAT	SAT	SAT	

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Heavy Equipment Safety Checklist

SITE: New Holloman

CONTRACT:

TASK ORDER#:

TEAM#: Loader TEAM 2 Anthony

TEAM LEADER: A. Lockleare

DATE	[1]MECHANICAL	WALK AROUND	SAFETY EQUIP[2]	REMARKS
5-10-04	good	good	good	N/A

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Checks will include:*
Hydraulic Hoses ✓
Belts ✓
Cables ✓
Checks for leaks ✓
Hose coupling connections ✓
Tires/Tracks ✓
Handholds/stairs/platforms ✓

** Safety equipment checks will include:*
Chain, shaft, pulley, belt, and all other guards ✓
Fire Extinguishers Full
First Aid Kits N/A
Rollover Protection Structures (ROPS) ✓
Backup Alarm ✓
Wheel Chocks N/A

Anthony [illegible] 5-10-04

BALKHOE

ZAPATAENGINEERING Heavy Equipment Safety Checklist

SITE: DP-64 HOLLOMAN AFB CONTRACT:
TASK ORDER#:

TEAM#: CHRIS E BROWN TEAM LEADER: C. BROWN

DATE	[1]MECHANICAL	WALK AROUND	SAFETY EQUIP[2]	REMARKS
10 May 04	GOOD	GOOD	GOOD	

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Checks will include:*
Hydraulic Hoses ✓
Belts ✓
Cables ✓
Checks for leaks ✓
Hose coupling connections ✓
Tires/Tracks ✓
Handholds/stairs/platforms ✓

** Safety equipment checks will include:*
Chain, shaft, pulley, belt, and all other guards ✓
Fire Extinguishers ✓
First Aid Kits N/A
Rollover Protection Structures (ROPS) ✓
Backup Alarm ✓
Wheel Chocks N/A

[signature] 10 MAY 04

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN
CONTRACT:
TASK ORDER#:

TEAM#: 2
TEAM LEADER: M. MATTHEWS

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
5/20	✓	✓	✓	53168
5/21	✓	✓	✓	53201
5/24	✓	✓	*	53435
5/25	✓	✓	*	53454
5/26	✓	✓	*	53499
5/27	✓	✓	* ✓	FIRST AID 53524
5/28	✓	✓	✓	53573
	* FIRST AID KIT MISSING			

#40.00

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN CONTRACT: TASK ORDER#: 0019

TEAM#: 1 TEAM LEADER: HOLDREN

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS 25 APR 04 11555	
22/05/04	✓	✓	✓	MILEAGE YUKON TURN-IN 13411 REPLACEMENT TAHOE	CEB 812 MILEAGE
23/05/04	✓	✓	✓		CEB
24/05/04	✓	✓	✓		CEB
25/05/04	✓	✓	✓		CEB
26/05/04	✓	✓	✓	TAHOE TURNED 1535 YUKON OUT 13414	CEB
27/05/04	✓	✓	✓		CEB
28/05/04	✓	✓	✓		CEB
28/05/04	✓	✓	✓	13760	CEB

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: DP-64 Holloman

CONTRACT:

TASK ORDER#:

TEAM#: SAFETY

TEAM LEADER: FARMER

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
5/22/04	✓	✓	✓	MILEAGE: 10,168
5/23	✓	✓	✓	FUEL: $32.00
5/24	✓	✓	✓	
5/26	✓	✓	✓	
5/27	✓	✓	✓	
5/28	✓	✓	✓	MILEAGE: 10416

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Heavy Equipment Safety Checklist

SITE: Holo.

CONTRACT:
TASK ORDER#:

TEAM#: TM 2

TEAM LEADER: Mike Matthews

DATE	[1]MECHANICAL	WALK AROUND	SAFETY EQUIP[2]	REMARKS
5/25	✓	✓	✓	
5-26	✓	✓	✓	
5-27	✓	✓	✓	
5-28	✓	✓	✓	ending mileage 13731.0600 hrs

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Checks will include:*
Hydraulic Hoses
Belts
Cables
Checks for leaks
Hose coupling connections
Tires/Tracks
Handholds/stairs/platforms

** Safety equipment checks will include:*
Chain, shaft, pulley, belt, and all other guards
Fire Extinguishers
First Aid Kits
Rollover Protection Structures (ROPS)
Backup Alarm
Wheel Chocks

VAL – FORD 4X4

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: Holoman CONTRACT:
TASK ORDER#:

TEAM#: 3 TEAM LEADER: Mike Mathews

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
5-28	✓	✓	✓	Begining mileage 0600hrs ~~13131~~ 13731.
6-2	✓	✓	✓	
6-3	✓	✓	✓	445:68
6-4				Ending Mileage 14247

14247
13731
516

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: DP-64 Holloman CONTRACT:
TASK ORDER#:

TEAM#: SAFETY TEAM LEADER: FARMER

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
5/29/04	✓	✓	✓	MILEAGE: 10,416
5/30/04				
5/31/04				
6/1/04				
6/2/04	✓	✓	✓	
6/3/04	✓	✓	✓	
6/4/04	✓	✓	✓	MILEAGE 10,680

25

680
416
264

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN AFB DP 64

CONTRACT:

TASK ORDER#:

TEAM#:

TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
1 JUN04	✓	✓	✓	START CUB 13760
2 JUN04	✓	✓	✓	CUB
3 JUN04	✓	✓	✓	CUB
4 JUN04	✓	✓	✓	END CUB 13921

921
760
161
10.00
10.00

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN AFB
CONTRACT:
TASK ORDER#:
TEAM#:
TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6·2·04	✓	✓	✓	53840 FUEL C 53606
6·3·04	✓	✓	✓	53873
6-4-04	✓	✓	✓	53901
6-5-04	✓	✓	✓	

28 ea
53901
53606
3 v 1

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

MILEAGE 79313
$ 75.75

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: DP 64 HOLLOMAN
CONTRACT:
TASK ORDER#:

TEAM#: EXPEDITION
TEAM LEADER: PAUL BECHTEL

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6/9/04	✓	✓	✓	493 MILES

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: Holoman

CONTRACT:
TASK ORDER#:

TEAM#: II

TEAM LEADER: Mike Mathews

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6-4	✓	✓	✓	Gas 12.065 g @ 1.879 (22.62 total) Beg. M.G.: 14247
6-5	✓	✓	✓	
6-6	✓	✓	✓	
6-7	✓	✓	✓	
6-8	✓	✓	✓	Gas 19.957 gal @ 1.879 37.50
6-9	✓	✓	✓	
6-10	✓	✓	✓	Ending mileage → 14490
				14247
				243 miles

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: DP-64 Holloman

CONTRACT:
TASK ORDER#:

TEAM#: SAFETY

TEAM LEADER: FARMER

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6/5/04	✓	✓	✓	MILEAGE 10,680
6/6/04	✓	✓	✓	
6/7/04	✓	✓	✓	
6/8/04	✓	✓	✓	
6/9/04	✓	✓	✓	
6/10/04	✓	✓	✓	MILEAGE 10,814

10814
10680
134

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN CONTRACT:
TASK ORDER#:

TEAM#: TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS 13961
5 JUN 04	✓	✓	✓	CB
6 JUN 04	✓	✓	✓	CB
7 JUN 04	✓	✓	✓	CB
8 JUN 04	✓	✓	✓	CB
9 JUN 04	✓	✓	✓	CB
10 JUN 04	✓	✓	✓	CB ~~130.00~~
				14044
				13961
				12.3

$ 30.00
$ 1.849
16.22 GAL

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

6-PAK F250

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN AFB
CONTRACT:
TASK ORDER#:
TEAM#:
TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6-7-04	✓	✓	✓	FUEL AT 53952 54098
6-8-04	✓	✓	✓	54127
6-9-04	✓	✓	✓	54176
6-10-04	✓	✓	✓	54204

Fuel ?

54264
53954
250 miles

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: CONTRACT:
TASK ORDER#:

TEAM#: TEAM LEADER: PAUL BECHTOLD

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6/07/04	✓	✓	✓	START 79313 79841
6/10/04	✓	✓	✓	528 TOTAL

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

841
313
528

472
313
159

$
112.75
59.6
GALLONS

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: Holoman

CONTRACT: TRUCK F150

TASK ORDER#:

TEAM#: II

TEAM LEADER: Mike Mathews

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS Beg. Mileage 14490
6-10	✓	✓	✓	~~25~~ 25
6-11	✓	✓	✓	~~25~~ 25
6-12	✓	✓	✓	8
6-13	✓	✓	✓	8
6-14	✓	✓	✓	14559
6-15				14583.9
6-16	✓	✓	✓	
6-17	✓	✓	✓	
6-18	✓	✓	✓	Ending mileage 14671

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

Anything start.

$15.00
8.34 Gallon

14671
14490
161

359
161
1520

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

Truck - Turned IN

SITE: Holloman CONTRACT: TASK ORDER#:

TEAM#: SAFETY TEAM LEADER: FARMER

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6/11/04	✓	✓	✓	MILEAGE 10,814
6/12/04	✓	✓	✓	FUEL: 16.1 GAL $30.00
6/13/04	✓	✓	✓	
6/14/04	✓	✓	✓	LEFT FRONT TIRE LOW
6/15/04	✓	✓	✓	
6/16/04	✓	✓	✓	
6/17/04	✓	✓	✓	
6/18/04	✓	✓	✓	MILEAGE 11,057 10,814 243 miles

1514
243
1757

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

STARTING MILEAGE 14044

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles Yukon

SITE:			CONTRACT: TASK ORDER#: Brown	
TEAM#:			TEAM LEADER:	
DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
11 JUN 04	✓	✓	✓	CAB 14044
12 JUN 04	✓	✓	✓	CAB
13 JUN 04	✓	✓	✓	CAB
14 JUN 04	✓	✓	✓	CAB Unleaded 25.00 @ 181.9 13.438 GAL
15 JUN 04	✓	✓	✓	CAB
16 JUN 04	✓	✓	✓	CAB
17 JUN 04	✓	✓	✓	CAB 14358
18 JUN 04				14044
				314
				2489
				2803

~~20.00 FOR FUEL 6 PAX 1 LEFT~~ ON 6 PAK

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

G-PAK

B8BBA

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN AFB

CONTRACT:

TASK ORDER#:

TEAM#:

TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6-14-04	✓	✓	✓	54322
15-04	✓	✓	✓	#20 = 14.5 CM 54349
6-16-04	✓	✓	✓	FLAT REPAIR 54382
6-17-04	✓	✓	✓	54408
6-18-04	✓	✓	✓	54433

54433
54322
111

151
111
1262

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

Expedition

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN CONTRACT:
TASK ORDER#:

TEAM#: Paul TEAM LEADER: BECHTEL

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
				79841
6-18-09	good	good	good	80401 (3) 79841
				560
				~~80917~~

FUEL COST 94.55

GALLONS 50.31

3171
-560
4331

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

VAL

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: Ho Loman

CONTRACT:
TASK ORDER#:

TEAM#:

TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6-18	✓	✓	✓	14671
6-19	✓	✓	✓	–
6-20	✓	✓	✓	
6-21	✓	✓	✓	
6-22	✓	✓	✓	
623	✓	✓	✓	
624	✓	✓	✓	
6-28	✓	✓	✓	14892.5
				14671
				121.5

$20.00
11.37 gallons

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

EXPEDITION X

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles 80401

SITE: HOLLOMAN CONTRACT:
TASK ORDER#:

TEAM#: TEAM LEADER: BROTHER

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
19 JUN 04	✓	✓	✓	
20	✓	✓	✓	
21	✓	✓	✓	
22	✓	✓	✓	
23	✓	✓	✓	
24	✓	✓	✓	44.00 24.73 GAL 1.779
25 JUN 04	✓	✓	✓	80917
				80401 566
				516 miles

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

YUKON 14358

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: Holloman CONTRACT:
TASK ORDER#:

TEAM#: TEAM LEADER: CHRIS BROWN

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
19 JUN 04	✓	✓	✓	EEB 24 24
20	✓	✓	✓	EEB
21	✓	✓	✓	EEB
22	✓	✓	✓	EEB
23	✓	✓	✓	EEB
24	✓	✓	✓	EEB
25	✓	✓	✓	EEB 14685
				14358
				327

Gallons 13.702 1.769

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

BOBBY

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN AFB
CONTRACT:
TASK ORDER#:
TEAM#: 6-PX
TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6-21		✓	✓	
6-22	✓	✓	✓	
6-23	✓	✓	✓	$20.00 11.118 GAL
6-24	✓	✓	✓	
6-25	✓	✓	✓	54582
				54433
				149

20.00
11.118 GAL

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

VAL

F 150

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: Holloman CONTRACT:
TASK ORDER#:

TEAM#: TM 1 TEAM LEADER: Valdez

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6-26	✓	✓	✓	14892.5
6-27	✓	✓	✓	
28	✓	✓	✓	11.370 gal @ $1.759 per
29	✓	✓	✓	
30	✓	✓	✓	
T-1	✓	✓	✓	15938.10
				14892.5
				145.5

$20.00

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

EXPEDITION

ZAPATAENGINEERING Safety Checklist for Motor Vehicles 80717

SITE: HOLLOMAN			CONTRACT: TASK ORDER#:	81216.2
TEAM#:			TEAM LEADER:	80717.0
DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS 499.2
6-26	✓	✓	✓	$44.00
6-27	✓	✓	✓	
6-28	✓	✓	✓	
6-29	✓	✓	✓	
630	✓	✓	✓	
701	✓	✓	✓	
7-02	✓	✓	✓	

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

Bob BY

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN AFB				CONTRACT: TASK ORDER#:
TEAM#: G-PAR				TEAM LEADER:
DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
6-28-04	✓	✓	✓	~~551211~~ NEW WEEK 054877
7-1-04	✓	✓	✓	551211
				~~756~~
				1411
				244
				1655
				X

40 $
22.237
Diesel

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

YUKON 14685 BROWN

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN CONTRACT:
TASK ORDER#:

TEAM#: TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
JUN 26	✓	✓	✓	
JUN 27	✓	✓	✓	
JUN 28	✓	✓	✓	
JUN 29	✓	✓	✓	
JUN 30	✓	✓	✓	
JUL 1	✓	✓	✓	

$34.60
19.897 GAL
1.739/GAL

14844
14685
159

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: Holoman

CONTRACT:
TASK ORDER#:

TEAM#: 1

TEAM LEADER: Lopez

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
7-1-04				15038
7-2				
7-3-04				
7-4				
7-5				
7-6				
7-7				
7-8	✓	✓	✓	veh. returned from Hertz
7-9	✓	✓	✓	15312

15312
15038
274

+ 238
Replacement
Ford F 150

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: Holloman CONTRACT:
TASK ORDER#:

TEAM#: YUKON TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
7/2/04	✓	✓	✓	$25.00 @ 1.879 13.305 GAL START 14844
7/3/04	✓	✓	✓	
7/4/04	✓	✓	✓	
7/5/04	✓	✓	✓	
7/6/04	✓	✓	✓	
7/7/04	✓	✓	✓	
7/8/04	✓	✓	✓	
7/9/04	✓	✓	✓	$30.00 $1.729 17.349 GAL 15214

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATA ENGINEERING Safety Checklist for Motor Vehicles

SITE: HOLLOMAN AFB
CONTRACT:
TASK ORDER#:
TEAM#: 6 PAX
TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS
7-7-04	✓	✓	✓	~~56024~~
7-8-04	✓	✓	✓	1055
7-9-04	✓	✓	✓	58079
9-2-04				56024
9-3-04				
9-4-04				
9-5-04				
9-6-04				

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

ZAPATAENGINEERING Safety Checklist for Motor Vehicles

SITE: YUKON

CONTRACT:
TASK ORDER#:

TEAM#:

TEAM LEADER:

DATE	UNDER HOOD*	WALK AROUND	SAFETY EQUIP*	REMARKS 15311
9Jul04	✓	✓	✓	
10Jul04	✓	✓	✓	
11Jul04	✓	✓	✓	
12Jul04	✓	✓	✓	
13Jul04	✓	✓	✓	
14Jul04	✓	✓	✓	
15Jul04	✓	✓	✓	
16Jul04	✓	✓	✓	15559

$30.00
19.9GAL
1.759

Indicate the condition of each check by stating SAT or UNSAT whichever is appropriate.

**Under the hood checks will include:*
Fluid Levels
Belts
Hoses
Checks for leaks
Tires

** Safety equipment checks will include:*
windshield wipers
Fire Extinguishers
First Aid Kits
Vehicle horn and Lights

HEAVY EQUIPMENT CHECKSHEETS

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACKHOE
✓		F	Oil Level
✓		1/4 8 Bar	Hydraulic Fluid Level
✓			Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	✓		Windows Clean
	✓		Mirrors Adjusted
✓	✓		Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic

Date 5-3-04 Operator's Signature Anthony R Lockley

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item LOADER
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
	✓		Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic

Date 5-3-04 Operator's Signature Anthony R Cockrell

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACKHOE
✓		FULL	Oil Level
✓		[redacted]	Hydraulic Fluid Level
✓		2/3	Fuel Level
✓			Backup Alarm
✓	N/A		Horn
✓			Lights
✓	N/A		Windows Clean
✓	[redacted]		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		2475 PSI	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic

Date 4 APR 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item LOADER
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
	N/A		Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓		Full	Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic

Date 5-4-04 Operator's Signature [illegible]

Back-hoe

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION HEAVY EQUIPMENT CHECKSHEET			
Checked	N/A	Level	Item BACKHOE
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
	N/A		Air Tank properly placed and straps tight
	N/A		Regulator tight and properly aligned
	N/A		Valve and Regulator on
	N/A		Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
			SEAT BELTS

Date 5-5-04 Operator's Signature [illegible]

Loader

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item LOADER
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
	N/A		Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
	N/A		Air Tank properly placed and straps tight
	N/A		Regulator tight and properly aligned
	N/A		Valves and Regulator on
	N/A		Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
			SEAT BELT

Date 5-5-04 Operator's Signature Anthony F Lockhart

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACKHOE
✓		F	Oil Level
✓		F	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓	N/A		Air Tank properly placed and straps tight
✓	N/A		Regulator tight and properly aligned
✓	N/A		Valve and Regulator on
✓	N/A		Bottle PSI
	N/A		Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic

Date 6/7/04 Operator's Signature [signature]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item LOADER
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
	N/A		Air Tank properly placed and straps tight
	N/A		Regulator tight and properly aligned
	N/A		Valve and Regulator on
	N/A		Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic

Date 5-6-03 Operator's Signature Anthony R Torbler

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item LOADER
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
	N/A		Air Tank properly placed and straps tight
	N/A		Regulator tight and properly aligned
	N/A		Valve and Diaphragm OK
	N/A		Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic

Date 5-7-04 Operator's Signature [signature]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACKHOE
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			~~Tires Properly Inflated~~
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
	N/A		Air Tank properly placed and straps tight
	N/A		Regulator tight and properly aligned
	N/A		~~Valve and Diaphragm OK~~
	N/A		Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic

Date 5-7-04 Operator's Signature [signature]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓			Oil Level
✓			Hydraulic Fluid Level
✓			Fuel Level
✓			Backup Alarm
✓			Horn
	N/A		Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 11 MAY 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Loader
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-11-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item loader
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500 psi
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-12-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓		FULL	Oil Level
✓		GOOD	Hydraulic Fluid Level
✓			Fuel Level
✓			Backup Alarm
✓			Horn
	N/A		Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓		25 PSI	Valve and Regulator on
✓		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5/12/04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓			Oil Level
✓			Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
	N/A		Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓		2500+	Valve and Regulator on
✓		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 13 MAY 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500 psi
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-13-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓			Oil Level
✓			Hydraulic Fluid Level
✓			Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
		OFF	Valve and Regulator on
		2700	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 14 MAY 2004 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item FRONT-END LOADER
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on [illegible] 5-14-04
✓		Full	Bottle PSI ≥500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-14-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		3/4 +	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓		2400 PSI	Valve and Regulator on
✓		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 17 MAY 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item FRONT-END-LOADER
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-17-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓		F	Oil Level
✓		F	Hydraulic Fluid Level
✓		3/4+	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓		OFF	Valve and Regulator on
✓		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 18 MAY 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-18-04 Operator's Signature [illegible]

Loader

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-19-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		2/3 +	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
OFF		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 19 MAY 04 Operator's Signature [signature]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓		✓	Oil Level
✓		✓	Hydraulic Fluid Level
✓		1/2	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
	N/A		Valve and Regulator on
✓		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 20 MAY 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-20-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		FULL	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
		OFF	Valve and Regulator on
		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

15 GALLONS
2318 HRS

Date 21 MAY 04 Operator's Signature [signature]

loader

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-21-04 Operator's Signature Anthony R Robinson

BACK HOE

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-24-04 Operator's Signature [illegible]

FRONT END LOADER

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		FULL	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓		OFF	Valve and Regulator on
✓		2400	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 28 May 04 Operator's Signature [signature]

Back-Hoe

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-25-04 Operator's Signature [illegible]

loader

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓		Full	Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI ≈ 5000
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-25-0 Operator's Signature Anthony Klodeles

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		FULL	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 05/26/04 Operator's Signature

Loader

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 5-26-04 Operator's Signature Arthur R Lorlehes

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item FRONT END LOADER
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		FULL	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		2200	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 27 MAY 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACKHOE
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		FULL	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted

✓		BATT
✓		TIRES
✓		PINS & PLT
✓		GRUNGE
✓		AIR TANKS
✓		REGULATOR
✓	2200	BOTTLE PSI
✓		HOSE
✓		BELTS
✓		PROPER FUNCTION
✓		ROD

27 MAY 04 [signature]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Backhoe
✓			Oil Level
✓			Hydraulic Fluid Level
✓			Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		2200	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 28/05/04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Front-end Loader
✓		F	Oil Level
✓		F	Hydraulic Fluid Level
✓		F	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		2200	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 28/06/04 Operator's Signature

Back-hoe

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Back-hoe
✓		Full	Oil Level
			Hydraulic Fluid Level
			Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2100
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-2-04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Loader
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-2-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Loader
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI ≈ 5-20
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-3-04 Operator's Signature Anthony R Torres

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Backhoe
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2100
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-3-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item loader
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-4-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Back hoe
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2100
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-1-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACK HOE
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 7JUN04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Loader
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-7-04 Operator's Signature Anthony R Torres

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Loader
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
✓			Windows Clean
✓			Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-8-04 Operator's Signature Anthony R [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Back hoe
✓		F	Oil Level
✓		F	Hydraulic Fluid Level
✓		F	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 8 JUN 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACKHOE
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		FULL	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 9JUN04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACKHOETH
✓			Oil Level
✓			Hydraulic Fluid Level
✓			Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

2320.3 NRS

Date 10 JUN 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Back-hoe
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-14-04 Operator's Signature [signature]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Backhoe
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-15-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Back Hoe
✓			Oil Level
✓			Hydraulic Fluid Level
✓			Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date [illegible] 04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Back hoe
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-17-04 Operator's Signature Anthony R Jackson

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item BACKHOE
✓			Oil Level
✓			Hydraulic Fluid Level
✓			Fuel Level
✓			Backup Alarm
✓			Horn
✓ on/A			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 18 JUN 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		FULL	Oil Level
✓		FULL	Hydraulic Fluid Level
✓		FULL	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 21 Jun 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		Full	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-22-04 Operator's Signature [illegible]

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item
✓		FULL	Oil Level
✓		3/4 +	Hydraulic Fluid Level
✓		FULL	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
			Roll Over Protection System (ROPS) in Good Condition

Date 23 JUN 04 Operator's Signature

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Back-hoe
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/a		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI 2500
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-24-04 Operator's Signature Anthony R Lockhart

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Back-hoe
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓		Full	Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-28-04 Operator's Signature Andrew R Lockler

HOLLOMAN AFB AREA DP-64 RCWM REMOVAL ACTION
HEAVY EQUIPMENT CHECKSHEET

Checked	N/A	Level	Item Rock-hoe
✓		Full	Oil Level
✓		Full	Hydraulic Fluid Level
✓		3/4	Fuel Level
✓			Backup Alarm
✓			Horn
✓			Lights
	N/A		Windows Clean
	N/A		Mirrors Adjusted
✓			Battery
✓			Tires Properly Inflated
✓			Grease Required as per manual
✓			Fire Extinguisher, full, pin in, properly tagged
✓			Air Tank properly placed and straps tight
✓			Regulator tight and properly aligned
✓			Valve and Regulator on
✓			Bottle PSI
✓			Hose, Not Kinked, In Good Condition, Connector Clean
✓			Belts and Fan in proper working order
✓			Proper Function of Hydraulic
✓			Roll Over Protection System (ROPS) in Good Condition

Date 6-29-04 Operator's Signature [illegible]

APPENDIX J
PHOTOGRAPHS

Locating Anomalies

Intrusive Activities

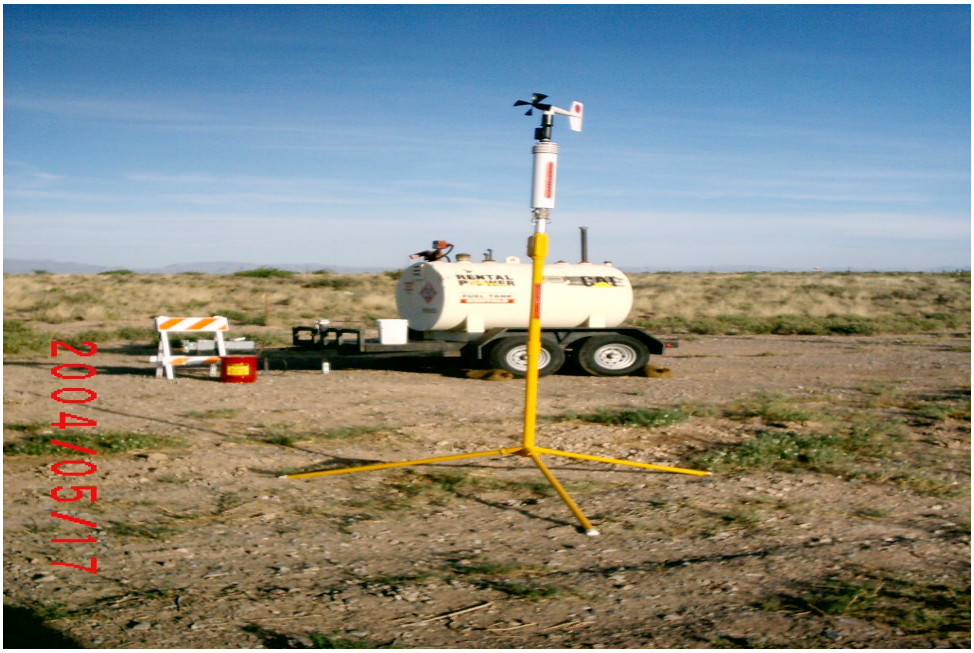
Geophysical Survey Equipment

Geophysical Survey

Heavy Equipment Operations

Heavy Equipment Training

Support Zone



Diesel Storage Area

ECBC

Interim Holding Facility (IHF)

Pre-Op Exercise Area

Shaker

Personnel Monitoring Tent

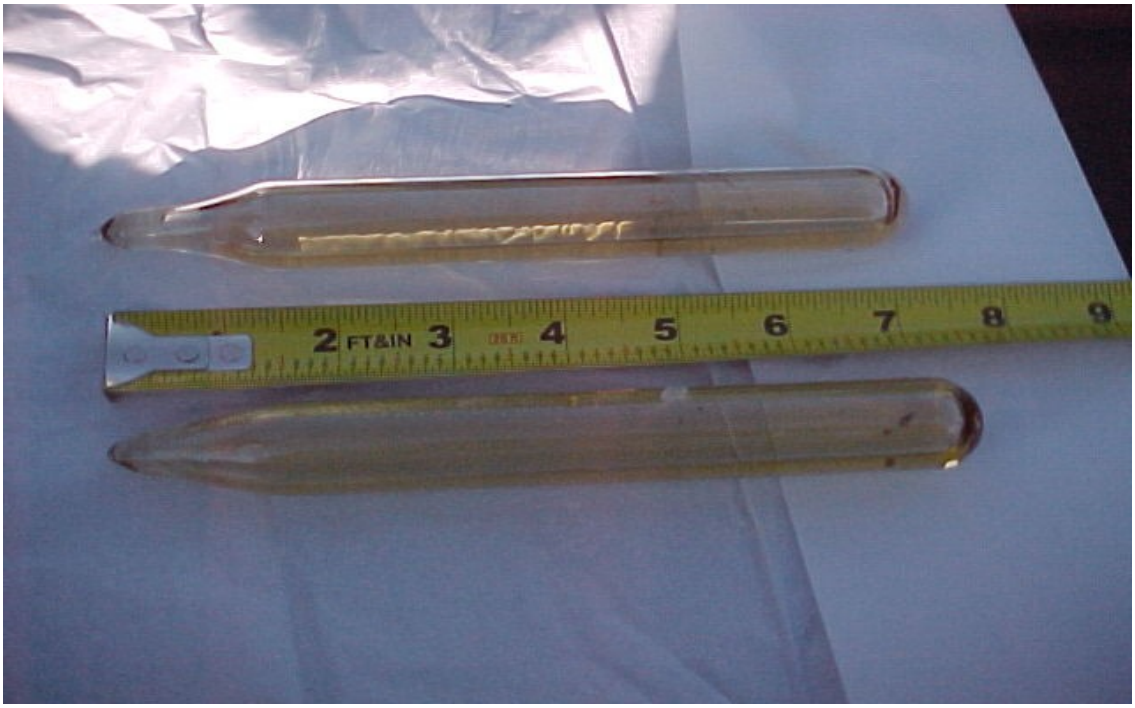
Redress Tent

Surface OE Items

Surface Ampoules (Broken)

Surface Ampoules (Broken) and Metal Flakes

Surface Ampoule (Intact)



Subsurface Ampoules (Intact)

Collecting Sample

SCANS Operations Training

PDS

Dismantled IHF Compound

DP-64 Fence Removal

Grid E03, Anomaly 103: M69 Incendiary

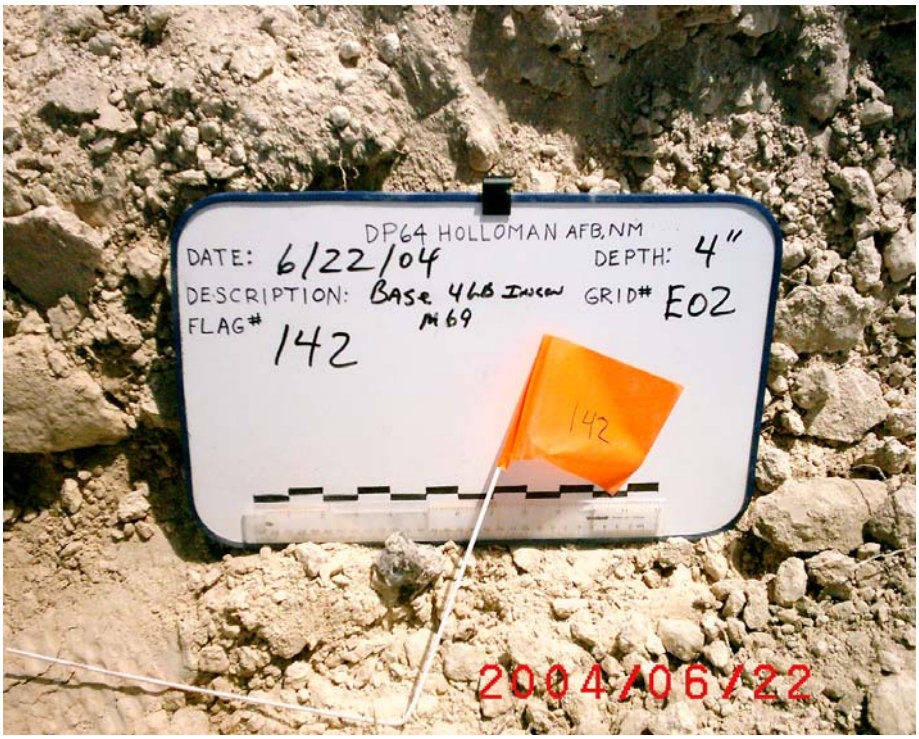
Grid E02, Anomaly 108: M69 Incendiary Base

Grid E03, Anomaly 109: M69 Incendiary Bases

Grid E02, Anomaly 112: M69 Incendiary Bases

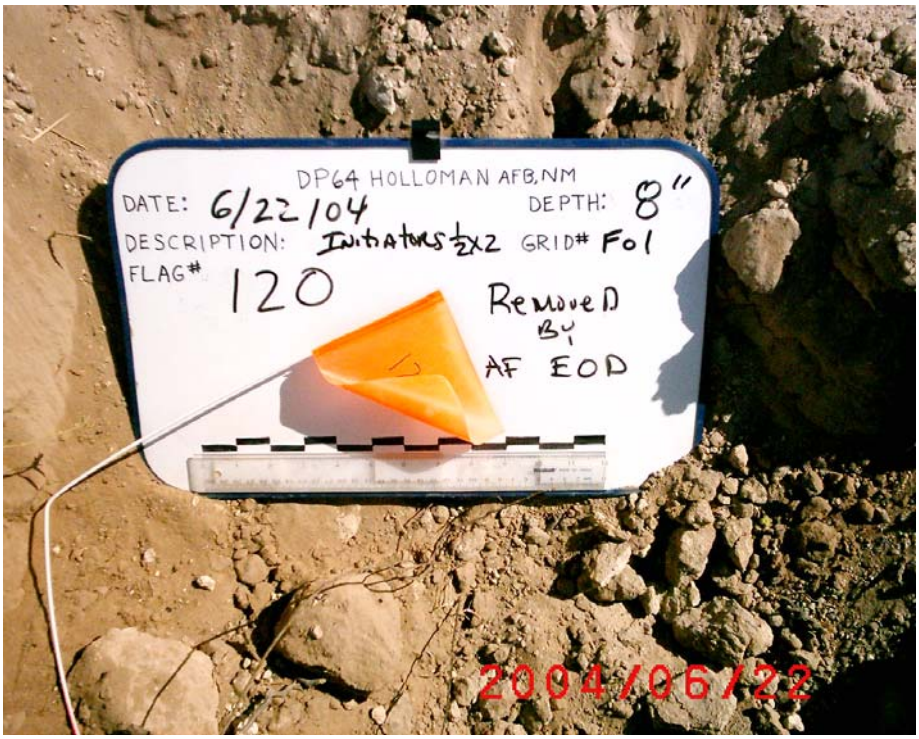
Grid E03, Anomaly 137: M69 Incendiary Pieces (Burn Pit)

Grid E03, Anomaly 114: M69 Incendiary Base



Grid E02, Anomaly 142: M69 Incendiary Base

Grid E03, Anomaly 99: CAIS Ampoules



Grid F01, Anomaly 99: M3 Grenade Ignitors

APPENDIX K
COST SUMMARY

Contract No.: DACA87-00-D-0034
Task Order No.: 0019
Prepared By: L.Hudgins

Area DP-64
Holloman Air Force Base, New Mexico
OE Recovered CWM Removal Action

SERV CLIN	LABOR CATEGORY	LABOR RATE	LABOR HOURS (Time & Materials Tasks)										
			TASK 5 Surface Clear ($46,357)	TASK 8 Intrusive Investigation ($234,053)	TASK 9 Field Monitoring ($15,524)	TASK 10 IHF Support ($79,332)	TASK 11 RCWM Scrap ($6,326)	TASK 12 OE Destruct & Certification ($3,090)	TASK 13 Site Restoration ($9,003)	TASK 16 Medical Support ($42,759)	TASK 17 SCANS Support ($26,473)	TOTAL ($462,917)	COSTS
0010AK	Heavy Equipment Operator	$45.96	42	73	38	14	- -	- -	40	- -	131	338	15,534
0010AN	Project Manager	$94.73	28	55	8	7	9	- -	2	8	- -	117	11,083
0010AV	Senior UXO Supervisor	$59.27	58	183	6	12	7	- -	7	- -	- -	273	16,181
0010BA	UXO Technician II	$50.01	168	603	39	28	9	- -	20	- -	- -	867	43,359
0010BB	UXO Technician III	$57.49	154	608	24	22	10	- -	24	- -	- -	842	48,407
0010BF	UXO QC Specialist	$55.23	74	52	14	6	10	- -	7	- -	- -	163	9,002
0010BG	UXO Safety Officer	$55.23	61	80	- -	5	7	- -	- -	- -	104	257	14,194
Labor Costs			32,731	91,811	6,963	5,289	3,232	- -	5,209	758	11,765		157,758
Material/Equipment Costs			7,639	61,668	2,518	2,584	53	- -	- -	- -	- -		74,462
Travel/Lodging/Per Diem Costs			4,883.	28,485	763	3,831	892	- -	- -	- -	- -		38,854
Subcontracting Costs				42,179	2,747	63,880	6,451	- -	- -	44,219	- -		159,476
TOTAL COSTS			**45,253**	**224,143**	**12,991**	**75,584**	**10,628**	**0.00**	**4,419**	**44,977**	**11,765**		**430,550**