SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
OOU6
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

PREPARED FOR:

US ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE

Contract No. DACA87-00-D-0034

Task Order No. 0001, Modification 1

Project No. I04SC0016

Geographic District: US Army Corps of Engineers, Charleston

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ABBREVIATIONS AND ACRONYMS

AFRL	United States Air Force Research Laboratory
AOE	Automated Ordnance Excavator
ARTS	All-purpose Remote Transport System
C	Center
CCATF	Camp Croft Army Training Facility
CEHNC	US Army Engineering and Support Center, Huntsville
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
DA	Department of the Army
DERP	Defense Environmental Restoration Program
DD	Department of Defense (usually used in the designation of various DOD forms)
DID	Data Item Description
DOD	Department of Defense
ESE	Environmental Science and Engineering, Inc.
EE/CA	Engineering Evaluation/Cost Analysis
EM	Electromagnetic
EOD	Explosive Ordnance Disposal
FUDS	Formerly Used Defense Sites
HFA	Human Factors Applications, Inc.
HH	Hand-Held
MK	Mark
MPA	Man Portable Adjunct
MTADS	Multi-sensor Towed Array Detector System
N	North
NIOSH	National Institute of Safety and Health
NCP	National Contingency Plan
No.	Number
OE	Ordnance and Explosives
OOU6	Ordnance Operable Unit 6
OSHA	Occupational Safety and Health Administration
QA	Quality Assurance
QC	Quality Control
QCS	Quality Control Specialist
QCO	Quality Control Officer
QCSR	Quality Control Summary Report
RAB	Restoration Advisory Board
RAC	Risk Assessment Code
RCRA	Resource Conservation and Recovery Act
S	South
SAP	Sampling and Analysis Plan
SC	South Carolina
SO	Safety Officer
SOW	Scope of Work
SSHP	Site Safety and Health Plan
SUXOS	Senior Unexploded Ordnance Supervisor
STD	Standard
US	United States
US EPA	United States Environmental Protection Agency
USACE	United States Army Corps of Engineers

UXB	UXB International, Inc.
UXO	Unexploded Ordnance
W	West
WP	White Phosphorus

1.0 INTRODUCTION

1.0.1 ZAPATAENGINEERING, under contract to the US Army Engineering and Support Center, Huntsville was tasked to perform an ordnance and explosives (OE) removal action on a parcel of property which was once part of the former Camp Croft Army Training Facility (CCATF). Refer to Appendix A for the Scope of Work (SOW). The former Camp Croft Army Training Facility is located five miles southeast of Spartanburg, South Carolina as shown on Figure B-1 in Appendix B. Ordnance Operable Unit 6 (OOU6) is a 28-acre site located east of Croft State Park on privately owned property adjacent to and south of US Highway 176 Bypass, south of the intersection with State Road 295. The site was previously cleared of ordnance with the exception of 4.13-acres composed of nine contiguous grids, each measuring 100 ft by 200 ft (Figure B-2 in Appendix B). The grids were heavily contaminated by metal fragments, most within 12 inches of the ground surface.

1.1 Project Objective

1.1.1 The project objective was to conduct an OE removal action, while also demonstrating the use of advanced remotely operated technology at a site that contained substantial subsurface metal fragments.

1.2 Project Authority and General Guidance

1.2.1 The work required under this Scope of Work falls under the Defense Environmental Restoration Program (DERP) – Formerly Used Defense Sites (FUDS) Program. This action was performed in a manner consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Sections 104 and 121: Executive Order 12580; and the National Contingency Plan (NCP), Section 300.400. All activities involving work in areas potentially containing unexploded ordnance hazards were conducted in full compliance with US Army Engineering and Support Center, Huntsville, (CEHNC), US Army Corps of Engineers (USACE), Department of Army (DA) and Department of Defense (DOD) requirements regarding personnel, equipment and procedures. 29 CFR 1910.120 applies to all actions taken at this site.

1.3 Site History

1.3.1 The former Camp Croft Army Training Facility (CCATF) consists of approximately 19,044 acres. Current land usage is approximately 7,088 acres for Camp Croft State Park (renamed Croft State Natural Area), 4,936 acres for farming, 256 acres for private industry, and 6,764 acres of residential use, including a public golf course.

1.3.2 In 1984, the USACE conducted a site survey of the Former Camp Croft. This site survey concluded that the "potential for unexploded and dangerous bombs, shells, rockets mines and charges either upon or below the surface" could be found at the Former Camp Croft.

1.3.3 In 1991, the USACE, Charleston District, conducted a Preliminary Assessment Study of this site. This study determined that the site was eligible for further investigation under the DERP-FUDS program.

1.3.4 In 1994 and 1995, Human Factors Applications, Inc. (HFA) performed a Time Critical Removal Action (TCRA) in OOU6 at the Former Camp Croft. The TCRA was planned for a 30-acre area owned by Dr. Brownlee Lowry, but was completed over an area of approximately 15 acres. The areas cleared included access roads adjacent to and southwest of the nine-grid area.

Ordnance items including one live 105mm with M48 fuse, two 60mm HE with fuses and one 155mm burster tube were recovered.

1.3.5 In 1995 and 1996, Environmental Science and Engineering, Inc. (ESE) performed an Engineering Evaluation/Cost Analysis (EE/CA) at the Former Camp Croft. The EE/CA addressed nine areas within the Former Camp Croft where OE items were either previously confirmed or suspected. One of the nine areas, referred to as Grid 87, is a 28-acre rectangular parcel of OOU6 encompassing the nine-grid area of investigation for this project. Grid 87 was geophysically investigated with magnetometers and intrusively investigated by hand. Ordnance finds included four 60mm and seven 81mm mortars, nine 105mm smoke canisters, mortar parts and numerous OE fragments.

1.3.6 In 1996 and 1997, Parsons Engineering Science, Inc., through an OE Engineering Design, evaluated OOU6 to determine the nature and extent of OE contamination and determined the most appropriate response action to reduce the public safety risk posed by OE at the site. In the area designated as Grid 87, Parsons recommended a surface clearance of OE with subsurface clearance to a depth of four feet.

1.3.7 In 1997 and 1998, HFA conducted an ordnance removal action in the area designated as Grid 87, within OOU6. Upon completion of the removal action, nine smaller contiguous grids within Grid 87 failed the government's quality assurance inspections. During the removal action, it was determined that the nine grids were presumed to be within an impact area and contained high concentrations of OE scrap and fragments.

1.3.8 In 1999, UXB International, Inc. (UXB) was tasked to conduct an ordnance removal action in the nine contiguous grids located in OOU6. UXB evaluated a previous contractor's geophysical data and conducted further geophysical investigations using a Schonstedt® magnetometer and a technique known as "mag and flag" to locate anomalies for investigation. Geophysical data verified the presence of substantially large amounts of metallic clutter and debris within the top one foot of soil. Upon further review of the density of fragmentation in the nine grids and the investigation procedures employed by UXB, the removal action was ceased.

1.4 Technical Instruction

1.4.1 ZAPATAENGINEERING, under contract to the CEHNC, conducted the removal action between March 2001 and December 2001. ZAPATAENGINEERING worked in close coordination with the CEHNC and the US Air Force Research Laboratory (AFRL) while developing the project scope, workplan and technical directives, and executing the removal. The CEHNC Task Order SOW outlined the CEHNC guidance for the overall project. ZAPATAENGINEERING completed the work in accordance with the CEHNC SOW and the approved project workplan entitled *OOU6 Work Plan Addendum to HFA Ordnance Removal Action, Former Camp Croft Work Plan*, dated March 2001.

1.5 Technical Scope and Approach

1.5.1 As the prime contractor, ZAPATAENGINEERING utilized a team approach consisting of in-house capabilities and subcontractors to conduct the site preparation and brush clearing, topographic surveys, mag and flag intrusive removals, EM61 and GEM3 geophysical surveys and anomaly reacquisitions, intrusive anomaly removals, quality control (QC) checks, scrap management and site restoration within the nine grid area of OOU6 at the former Camp Croft. Photographs documenting site activities are included in Appendix C.

1.5.2 Project Team Organization

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

1.5.2.2 Project Manager (ZAPATAENGINEERING)

1.5.2.2.1 Over the course of the project, Mr. Ed Henson and Ms. Suzy Cantor-McKinney served as Project Manager, and were responsible for ensuring execution of the project in a timely and cost effective manner. They were responsible for communicating with the CEHNC Project Manager, oversight of overall performance of the project team, coordinating all contract and subcontract work, and resolving problems. Their responsibilities included monitoring adherence to the project schedule and overall management of the project budget, including assurance that subcontractor costs were within budget.

1.5.2.3 Task Manager (ZAPATAENGINEERING)

1.5.2.3.1 Mr. Jason Shiflet assisted the Project Managers and was responsible for the day-to-day management and execution of the project field operations and personnel. Daily duties included technical review and scheduling, coordinating and monitoring of subcontractor field activities and enforcing compliance with the Workplan and Site Safety and Health Plan (SSHP).

1.5.2.4 Senior Geophysicist (ZAPATAENGINEERING)

1.5.2.4.1 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.

1.5.2.5 UXO Quality Control Officer (ZAPATAENGINEERING)

1.5.2.5.1 Through the duration of fieldwork, Mr. Charles (Chris) Rose, Mr. TJ Die, and Mr. Clifford M. Walden rotated as the UXO Quality Control Officer, responsible for quality control of all site activities required by the CEHNC and the SOW. The UXO QC Officer was responsible to the ZAPATAENGINEERING Project Manager for project quality control, which included administering the program and coordinating site activities with the SUXOS, and was also responsible for maintaining the site inventory of government and subcontractor equipment.

1.5.2.6 UXO Safety Officer (ZAPATAENGINEERING)

1.5.2.6.1 Through the duration of fieldwork, Mr. Charles (Chris) Rose, Mr. TJ Die, and Mr. Clifford M. Walden rotated as the UXO Safety Officer (UXO SO), responsible for ensuring site safety and compliance with the safety provisions of the Work Plan and the SSHP. The UXO SO 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 and was the primary point of contact for any on-site emergency. The UXO SO conducted safety briefings daily.

TABLE 1-1 PROJECT PERSONNEL ROLES AND PARTICIPATION

PERSONNEL	ROLE	SITE PREP BRUSH REMOVAL	REMOTE EXCAVATION AND SIFTING	MAG & FLAG REMOVAL	PHASE I – OE REMOVAL		PHASE II – OE REMOVAL		SCRAP MANAGE	SITE RESTORE
					EM61 SURVEY	REACQUISITION & REMOVAL	EM61/GEM3 SURVEY	REACQUISITION & REMOVAL		
US Army Engineering and Support Center, Huntsville (CEHNC)										
Karl Blankinship	Project Manager	*	*	*	*		*			
Bob Bohannon	Safety Officer		*	*	*	*	*	*	*	*
Mike Smith	Safety Officer			*						
Dan Plugge	Technical Manager						*			
ZAPATAENGINEERING, P.A.										
Suzy Cantor-McKinney	Project Manager		*	*				*		*
Ed Henson	Project Manager	*	*	*	*	*	*	*		*
Tim Burkett	GIS Manager									
Jason Shiflet	Task Manager	*	*	*	*	*	*	*		*
Charles C. Rose	UXO QC/SO	*	*	*	*	*	*	*	*	*
	UXO Tech III							*		
TJ Die	UXO QC/SO		*	*	*	*				
	UXO Tech III							*		
Cliff M. Walden	UXO QC/SO						*	*	*	*
	UXO Tech III									
Tim Hendrix	SUXOS							*	*	
	UXO Tech III									
Neil Gilbert	Senior Engineer		*					*		
Ruthann Baur	Contract Officer		*							
US Air Force Research Laboratory										
Walt Waltz	Project Manager		*							
Marvin Gay	Equip. Operator		*							
Shane Gilmore	Equip. Operator		*							
Chris Walfingham	Equip. Operator		*							

Personnel	Role	Site Prep Brush Removal	Remote Excavation and Sifting	Mag & Flag Removal	Phase I – OE Removal		Phase II – OE Removal		Scrap Manage	Site Restore
					EM61 Survey	Reacquisition & Removal	EM61/GEM3 Survey	Reacquisition & removal		
Human Factors Applications, Inc. (HFA)										
Rick Hanoski	Project Manager									
Robert Raesemann	SUXOS		*	*		*			*	
Mark Lewis	UXO Tech II		*	*		*				
Bill Harris	UXO Tech II		*	*		*				
Tim Munger	UXO Tech II		*	*		*				
Doug McCue	UXO Tech III		*	*		*				
Tim Hendrix	SUXOS									
	UXO Tech III		*	*		*				
Chris Yonat	UXO Tech II		*	*		*				
Rick Lonsberry	UXO Tech II		*	*		*				
Glen Childers	UXO Tech II		*	*		*				
Tom Sheffield	UXO Tech II		*	*		*				
B.P. Barber & Associates										
John Kinsey	Lead Surveyor	*	*		*		*			
Ed Martz	Surveyor	*	*		*		*			
Micheal Patterson	Surveyor	*								
Dave McDonald	Surveyor	*								
C. A. Gaither Construction Company										
Ken McCloud	Equip. Operator		*							*
Michael Hicks	Equip. Operator		*							*
James Triplett	Equip. Operator		*							*
Blackhawk UXO Services										
Jim Hild	Proj. Geophysicist									
Todd Meglich	Geophysicist				*	*				
Mike Jones	Field Technician				*	*				
Paradigm Communications										
Laura Harris	Video Producer	*	*	*	*		*			

Personnel	Role	Site Prep Brush Removal	Remote Excavation and Sifting	Mag & Flag Removal	Phase I – OE Removal		Phase II – OE Removal		Scrap Manage	Site Restore
					EM61 Survey	Reacquisition & Removal	EM61/GEM3 Survey	Reacquisition & removal		
Steve Heinz	Cameraman	*	*	*	*		*			
Scott Dowless	Cameraman	*	*							
NAEVA, Inc.										
Mark Howard	Lead Geologist						*			
Robert Gimpel	Geologist						*			
Preston Hawkins	Lead Geologist							*		
Alex Kostera	Geologist							*		
Suzanne Moore	Geologist							*		
USA Environmental, Inc.										
Richard Schneider	UXO Tech III							*	*	
Joseph Lee Hong	UXO Tech II							*		
Rob Freve	UXO Tech I							*		
Red Hill, Inc.										
Mike Casey	Equip. Operator									*
Security Services of America, Inc.										
Sybil Salisbury	On-site Security		*	*						
Howard Hickman	On-site Security		*	*						
L.B. Smith										
Donald Johnson	Mechanic		*							
Bryan Oswalt	Mechanic		*							
Connel Adkin	Mechanic		*							

* indicates that personnel were present during portions of the work phase.

1.5.2.7 Senior UXO Supervisors (HFA and ZAPATAENGINEERING)

1.5.2.7.1 Mr. Robert Raesemann (HFA) and Mr. Timothy J. Hendrix (HFA, subsequently employed by ZAPATAENGINEERING) were responsible for the day-to-day on-site management of UXO services. Their responsibilities included direction of all UXO site operations and coordination with the ZAPATAENGINEERING QC/SO and Project Manager.

1.5.2.8 UXO Technicians (ZAPATAENGINEERING and HFA)

1.5.2.8.1 During the excavation and sifting operation, mag and flag removal and first phase of the OE removal, Messrs. Doug McCue, Chris Yonat, Rick Lonsberry Glen Childers, Tom Sheffield, Bill Harris, Mark Lewis and Tim Munger of HFA were UXO Technicians on-site. The UXO Technicians reported to Mr. Bob Raesemann. During the second phase of OE removal, Messrs. Charles C. Rose, Clifford M. Walden and T J Die of ZAPATAENGINEERING and Richard Schneider, Joseph Lee Hong and Rob Freve of USA Environmental, Inc. were UXO Technicians on-site. The UXO Technicians reported to Mr. Tim Hendrix, SUXOS of ZAPATAENGINEERING. While on-site, UXO Technicians were responsible for conducting UXO services including UXO escort, intrusive removal operations, and scrap management.

1.5.2.9 GIS Manager (ZAPATAENGINEERING)

1.5.2.9.1 Mr. Tim Burkett was responsible for development and maintenance of the project GIS, and transmittal of accurate spatial data to the CEHNC in accordance with contract and SOW requirements.

1.5.2.10 Remote Heavy Equipment Operators (US Air Force Research Laboratory)

1.5.2.10.1 Walt Waltz, Marvin Gay, Shane Gilmore and Chris Walfingham were responsible for the maintenance and operation of the robotic equipment used to excavate and sift soil.

1.5.2.11 Geo-Surveyors (Blackhawk UXO Services and NAEVA, Inc.)

1.5.2.11.1 Messrs. Todd Meglich and Mike Jones of Blackhawk (May 2001) and Mark Howard, Robert Gimpel, Preston Hawkins, Alex Kostera, and Suzanne Moore of NAEVA, Inc. (November – December 2001) were responsible for conducting the electronic geophysical data collection and anomaly reacquisition. Their responsibilities included establishing the geophysical survey area within grid boundaries, collecting grid data, maintaining the working condition of the geophysical equipment, transferring data to their respective offices for processing, and reacquiring and flagging all selected target anomalies. While on-site, the geo-survey team reported to the ZAPATAENGINEERING UXO SO/QC.

1.5.2.12 Topographic Surveyor (B.P. Barber & Associates)

1.5.2.12.1 Messrs. John Kinsey, Ed Martz, Michael Patterson, and Dave MacDonald were responsible for conducting topographic surveys of OOU6, including establishing the locations of grids onsite by marking grid corners with wooden stakes, collecting elevation data across the site and creating a topographic map reflecting data collected. While on-site, the topographic survey team reported to Messrs. Charles C. Rose and Clifford M. Walden.

1.5.2.13 Site Restoration (C.A. Gaither and Red Hill, Inc.)

1.5.2.13.1 Messrs. Ken McCloud, Michael Hicks, James Triplett of C.A. Gaither conducted site restoration activities during the initial phase of the excavation and sifting operation. Mr. Mike Casey of Red Hill, Inc. was responsible for completing site restoration activities. Site restoration

activities included relocating soil, boulders and trees displaced during excavation and sifting operations. Damaged roads were repaired, and the site was smoothed and terraced. Grass and pine seedlings were planted to stabilize the area.

1.5.2.14 Security (Security Services of America)

1.5.2.14.1 Security Services of America provided project site and explosive storage security from March to June 2001. Ms. Sybil Salisbury and Mr. Howard Hickman provided overnight security for the live M84 105mm HC smoke round discovered on-site from 27-29 August 2001.

1.5.2.15 Video Production (Paradigm Communication)

1.5.2.15.1 Ms. Laura Harris and Messrs. Steve Heinz and Scott Dowless were responsible for video documenting all phases of the technology demonstration and removal effort conducted on-site.

1.5.2.16 Mechanical Support (L.B. Smith)

1.5.2.16.1 Messrs. Donald Johnson, Bryan Oswalt and Connel Adkin provided mechanical support to the remote heavy equipment operators by maintaining and repairing the large sifters used on-site.

2.0 OE INVESTIGATION AND REMOVAL

2.1 Project Background

2.1.1 In February 2001, ZAPATAENGINEERING, P.A. was tasked to perform an ordnance removal action at OOU6. Remotely operated heavy equipment operated by the US Air Force Research Laboratory supported the removal as part of a Technology Demonstration funded and managed directly by the US Army Engineering and Support Center, Huntsville. Based on site conditions and results of the technology demonstration, the removal operation was conducted in two phases. The first phase involved removal and sifting of the top eight to twelve inches of soil using remotely operated heavy equipment. The second phase involved a combination of removal methods including the use of "mag and flag" techniques using an EM-61 hand-held (HH) unit or Schonstedt® magnetometer, and digital geophysical data collection, mapping and reacquisition using both the EM-61 and the GEM-3 sensors.

2.2 Physical Site Information

2.2.1 Topography

2.2.1.1 Topography of the nine contiguous grids in OOU6 varies from gently sloped to the east on the western side of the area, to steeply sloped towards the east on the eastern side of the project site.

2.2.2 Climate

2.2.2.1 The National Weather Service Greenville-Spartanburg, SC station maintains general climatic conditions and information for the area encompassing this site. Unabridged versions of general climatic data can be found at http://www.nws.noaa.gov/er/gsp/climate/gspgen.txt.

2.2.3 Seasonal Weather

2.2.3.1 The elevation of the project area is between 800 and 1,100 feet. Winters are quite pleasant, with the temperature remaining below freezing throughout the daylight hours only a few times during a normal year. There are usually two freezing rainstorms each winter and two or three small snowstorms. Rainfall in this area is usually abundant and spread quite evenly through the months. Droughts have been experienced, but are usually of short duration.

2.2.4 Winds

2.2.4.1 The Appalachian mountain ridges located northwest of the project area, which are oriented northeast to southwest, appear to have an influence on the direction of the wind. The prevailing directions are northeast and southwest, divided almost evenly, with fall and winter seasons favoring northeast and spring and summer seasons favoring southwest. Destructive winds occur occasionally, but tornadoes are infrequent in this vicinity.

2.2.5 Growing Season

2.2.5.1 In the southern two-thirds of Greenville and Spartanburg Counties, including the cities of the same names, the average occurrence of the last temperature of 32 degrees in spring is late March and the average occurrence of the first in fall is early November, giving an average growing season of 225 days.

2.2.6 Vegetation

2.2.6.1 The property consists primarily of second growth pines and softwood trees and undergrowth. The nine grids of OOU6 identified for this removal were denuded of vegetation by the remotely operated heavy equipment to support field operations.

2.2.7 Site Utilities

2.2.7.1 There were no site utilities identified that interfered with geophysical data collection, anomaly reacquisition, or OE intrusive operations.

2.2.8 Overall Site Accessibility and Impediments

2.2.8.1 Site accessibility was normally unimpeded through the duration of the project. However, heavy rainfall would occasionally saturate the clay and silt on-site and cause the surface soil to become too deep and slippery for safe travel by vehicles. Further, walking on the steeper slopes was not safe when the clay was saturated with water. To avoid problems during wet weather, ZAPATAENGINEERING worked areas that were not as steep and parked the vehicles on the side of improved roads in the upper areas, or tasks were rescheduled until the area was dry enough to resume operations.

2.3 Area of Investigation

2.3.1 The area of investigation is composed of nine contiguous grids that are located within the OOU6 of the former CCATF, as illustrated on Figure B-2. The site is within property used as an active construction material waste disposal landfill (Red Hill, Inc.) owned by Dr. Brownlee Lowery. Specifically, the nine-grid area is located in the easternmost portion of the property on a moderate slope, which slopes east towards US Highway 176, just above Kennedy Creek. The site is bounded by landfill access roads on the western, southern and eastern sides and by a thick hardwood forest to the north. The site was previously cleared of ordnance with the exception of the 4.13-acre nine-grid area. Individual grids measure 100 ft by 200 ft and were heavily contaminated by metal fragments, most within 12 inches of the ground surface. During site work, each of the nine grids was divided into two 100 feet by 100 feet square grids. Each sub-grid was named after the parent grid and given the designation as the northern half or the southern half of the grid by using “N” and “S”, respectively.

2.4 Major Work Stages

The site work consisted of several work stages:

- Site Preparation (including brush clearing and land surveying)
- Use of Remotely Operated Equipment (Technology Demonstration)
- Mag/Flag/Dig
- Geophysical Mapping
- Anomaly Reacquisition/Removal
- Second Effort of Geophysical Mapping, Reacquisition, and Removal

2.4.1 Excavation and sifting operations were conducted by AFRL using remotely operated heavy equipment. UXO technicians performed removal of subsurface anomalies throughout the project. The geophysical investigation and anomaly reacquisition were conducted in two phases; by Blackhawk in May 2001, and by NAEVA in November and December 2001. Scrap was managed throughout the duration of the project. Scrap metal was stored in a locked metal container on-site and was accessible only by the SUXOS or UXO QC Officer. Site restoration involved the relocation of sifted dirt on-site and the grading and reseeding of the hillside. Each of the work stages is described in detail below.

2.4.2 Site Preparation

2.4.2.1 ZAPATAENGINEERING established an office trailer and explosive magazine storage area at a Croft State Park storage site located just off Diary Ridge Road.

2.4.2.2 B. P. Barber and Associates conducted boundary, topographic and grid surveys at OOU6. The previous grid corner locations were reestablished. Topographic data were collected to establish a baseline elevation of the site before any soil removal. Subsequent topographic surveys were conducted to determine how much earth had been removed from the site by the remotely operated heavy equipment. Survey personnel were escorted by UXO technicians while on-site.

2.4.2.3 Most of area had been previously cleared of brush. However, some tree removal was required along the outermost grids. The AFRL used the remotely operated equipment to assist in tree removal. Brush was consolidated on site, beyond the grids, for disposal by Red Hill, Inc.

2.4.3 Excavation and Sifting

2.4.3.1 The continuation of the site work in OOU6 results from the excessive amount of metallic fragments present in the top eight to twelve inches of soil. Metallic clutter generally prohibits geophysical data collection because the sheer volume of fragmentation does not allow for discrimination of discrete target anomalies. Standard “mag and flag” techniques are equally as futile because of the large volume of items that require removal. These site conditions, and consideration of the safety of the UXO personnel, prompted the CEHNC to search for an alternate approach to respond to this site.

2.4.3.2 The CEHNC contracted (under a separate contract) the AFRL to demonstrate current robotic technology on-site. The AFRL mobilized personnel and equipment from Tyndall Air Force Base, FL to the site. The AFRL equipment included a D-8 bulldozer, an automated ordnance excavator (AOE), a sifter/shaker; and an All-purpose Remote Transport System (ARTS). All were remotely operated from a control van located outside the established safety perimeter. The Caterpillar® D-8N bulldozer was outfitted with an armor protection kit and an Omnitech Robotics® remote control kit, which enabled the bulldozer to be operated up to three miles away within line-of-sight. The AFRL used the bulldozer to remove the top one-foot of soil and push the soil towards the bottom of the hill to be processed through the sifter.

2.4.3.3 A Caterpillar® "long-reach" excavator was also fitted with an AFRL-developed remote control system. The excavator was equipped with a thumb attachment to aid in the removal of stumps and trees and lift individual ordnance items, if necessary. The excavator was used to transfer soil stockpiled by the bulldozer to the sifter and to excavate specific areas containing dense metallic debris below a depth of one foot. A camera was attached to the excavator boom to enable the equipment operator to inspect the sifted material before UXO-qualified personnel accessed the sifter area.

2.4.3.4 A Nordburg® CV-90D mechanical sifter was used to process the soil. The mechanical sifter was fitted with a screen of 2-inch square mesh to separate potentially explosive items and artillery fragments from the soil. During sifting operations, the sifter would be shut down to allow for UXO technicians to inspect the material remaining on the screen or on the ground around the sifter. OE-related items were inspected and managed as scrap, as described in Section 2.4.7.

2.4.3.5 The ARTS, a small remote-controlled front-end loader, was used to stockpile "clean" soil after being processed by the sifter. Because personnel could monitor the operation from outside the exclusion zone, use of this remotely operated vehicle allowed uninterrupted soil sifting without halting operations to move sifted soil. This approach was used from March 2001 until July 2001.

2.4.4 Mag and Flag Removal

2.4.4.1 While using the remotely operated equipment, HFA and USA Environmental, under contract to ZAPATAENGINEERING, were on-site to conduct subsurface removals using Schonstedt® magnetometers in areas inaccessible to the heavy equipment, such as the deep, wooded ravine that bisected the s-ite. HFA was also responsible for disposal of any live munitions found from 5 April 2001 to 15 August 2001. Two three-man teams of UXO technicians under the guidance of a SUXOS conducted the removal, managed the explosives, and inspected all OE scrap. These activities were conducted when the remote equipment was not in operation as a result of maintenance, adverse weather conditions, or scheduled downtime. Items were excavated by hand using standard hand tools. Dig teams verified the removal of the anomaly source using Schonstedt® magnetometers. HFA and ZAPATAENGINEERING UXO technicians escorted geophysical mapping personnel during data collection, and excavated targets selected from the geophysical survey.

2.4.5 Geophysical Investigation, Reacquisition, Removal

2.4.5.1 Blackhawk UXO Services

2.4.5.1.1 Upon completion of bulldozing operations, it was determined that areas with high concentrations of fragmentation remained. Blackhawk UXO Services was subcontracted to geophysically map portions of the nine grids. Areas with obstructions, such as rocks, trees, berms, and drainages, were not surveyed, nor was the southern half of Grid E7, as it had been cleared of OE and passed the government quality assurance check.

2.4.5.1.2 Blackhawk utilized a Man Portable Adjunct (MPA) of the Multi-sensor Towed Array Detection System (MTADS) with an electromagnetic (EM) array to conduct the geophysical survey of OOU6. Positioning for the MTADS MPA as well as anomaly reacquisition was accomplished with a Trimble 4700 RTK differential global positioning system (GPS). The survey was conducted between May 1 and May 10, 2001. Geophysical investigation data are included in Appendix D1.

2.4.5.2 Geophysical Prove-out

2.4.5.2.1 A prove-out grid measuring 48 feet by 10 feet was constructed adjacent to the survey area. The test lines contained a 60mm mortar buried at 12 inches, an 81mm mortar buried at 24 inches, and a 105mm projectile buried at 48 inches. During the initial data collection effort, Blackhawk traversed the grid twice a day for QC purposes. Latency tests were performed each morning to check the time lag between the positional and geophysical data streams.

2.4.5.3 Data Collection

2.4.5.3.1 Blackhawk personnel used an EM-61 to geophysically map and relocate targets in this area, while being escorted by UXO technicians. A total of 1,496 targets were identified within Grids D8, D9, and the southern one-third of Grids E8, and E9. The remaining portions of the site contained multiple overlapping anomalies, and individual targets could not be identified. Blackhawk relocated 1,318 targets prior to demobilizing from the site. The remaining 178 targets were provided to the dig team for reacquisition and excavation.

2.4.5.4 Anomaly Excavation

2.4.5.4.1 ZAPATAENGINEERING and its subcontractor, HFA, conducted the subsurface OE investigation based on geophysical data collected, processed and evaluated by Blackhawk. Anomaly target selections were reviewed by the CEHNC and investigated by ZAPATAENGINEERING after notifying the CEHNC. ZAPATAENGINEERING communicated field validation, data processing and re-evaluation updates to the CEHNC on a regular basis. Anomaly excavation continued through August 2001. During this time, the AFRL continued to use the remotely operated equipment to move tree stumps and excavate and sift soil from areas not geophysically surveyed. In addition, the AFRL selectively excavated areas that were noted in the geophysical data as remaining concentrated with metal fragments.

2.4.5.5 NAEVA Geophysics, Inc.

2.4.5.5.1 Continuous surveys of the grids with the Schondstedt® indicated that, even after removal of the top layers of soil and geophysical mapping, reacquisition, and excavation, areas of high concentrations of metal fragments remained throughout the project site. As a result, a second geophysical mapping effort was conducted in November through December 2001. NAEVA was subcontracted to use both the EM-61 and GEM-3 for geophysical mapping. Phase I of the work was conducted from September 17 through September 21, 2001. Phase II occurred from November 12 through November 20, and November 30 through December 7, 2002. NAEVA utilized the existing prove-out grid established in May 2001 to demonstrate the detection capabilities of the EM-61 and the GEM-3. UXO technicians accompanied the geophysical personnel on-site. Geophysical investigation data are included in Appendix D2.

2.4.5.6 Data Collection

2.4.5.6.1 The nine grids were sub-divided and a series of parallel lines spaced three feet apart were established within each grid. Data were collected along these lines in all grids with the EM-61. GEM-3 data were collected in the same manner in the six western-most grids. NAEVA re-located EM-61 anomalies with an amplitude of 6mV or greater and GEM-3 anomalies of 100 ppm or greater in NAEVA-defined Grids 2 and 4 (F9N and F9S, respectively). In the remaining grids, reacquisition began with GEM-3 anomalies greater than 100 ppm, starting with the highest amplitude on the target lists and continuing until 20% of the GEM-3 anomalies that fell outside a radius of 12 inches from an existing EM-61 anomaly were located.

2.4.5.6.2 To better evaluate the effectiveness of the survey, NAEVA was directed to re-survey the five western-most grids following UXO removal. NAEVA personnel utilized the same procedures described above for data collection and reacquisition, except that only the EM-61 was employed for reacquisition. A total of 2,577 anomalies were identified; 1,762 anomalies (minus 103 GEM-3 / EM-61 duplicates) were flagged during the first round of data collection. Following excavation of the flagged anomalies and subsequent data collection with the EM-61, an additional 490 anomalies were flagged for removal.

2.4.5.7 Anomaly Excavation

2.4.5.7.1 From November through December 2001, under the direction of the ZAPATAENGINEERING SUXOS, USA Environmental, Inc. and ZAPATAENGINEERING excavated relocated targets selected and flagged by NAEVA. Items were excavated by hand using standard hand tools. Dig teams verified the removal of the anomaly source using Schonstedt® magnetometers. Numbered pin flags were placed to ensure all selected anomalies were intrusively investigated. The pin flags were different colors to avoid confusion between the grids. The flags were numbered so that the lowest numbers reflected the stronger hits.

2.4.5.7.2 During this phase of the removal action, Mr. Rick Renna of the Spartanburg County Sheriff's Office conducted all disposal operations. This arrangement was approved by CEHNC and was at no cost to the Spartanburg County Sheriff's Office, as Mr. Renna used explosives signed over to the Sheriff's Office after the initial removal action.

2.4.6 OE Summary

2.4.6.1 Dig teams performed 24,019 subsurface digs on-site and removed 738 non-UXO items including M84 105mm HC smoke rounds (expended), M1 smoke canisters (expended), M48 fuzes (expended), and M43 81mm tail fins, plus miscellaneous OE scrap with an estimated total weight of approximately 9,461 lbs, as listed in Table 2-1. Seven UXO were destroyed by detonation. Table 2-2 details each of the UXO items discovered on-site and the method of destruction used to vent the item. All disposal operations were conducted on site. Condensed daily SUXOS reports documenting site activities are in Appendix E. Copies of CEHNC Form 948 are in Appendix F. Explosives documentation is included in Appendix G.

TABLE 2-1 ORDNANCE AND EXPLOSIVES ITEMS

	Non UXO	UXO	Weight (lbs.)
Subsurface Digs	24,019		
OE scrap			9,461*
M84 105mm HC smoke rounds (expended)	154		
M1 smoke canisters (expended)	165		
M48 fuzes (expended)	401		
M43 81mm tail fins	18		
M49 60mm Mortar		1	
M43 81mm HE mortar		5	
M84 105mm HC smoke rounds		1	
Non-OE scrap**			0

* Estimated weight.
** UXO team recorded no non-OE scrap.
Data tabulated from weekly progress reports.

TABLE 2-2 UXO ITEMS

Grid	Date Found	Quantity	Description	HE	Disposition
F8	02 May	1	M 43 81mm Mortar	Yes	BIP
E8	10 May	1	M49 60mm Mortar	Yes	BIP
F7	16 July	1	M43 81mm Mortar	Yes	BIP
F8	01 August	1	M43 81mm Mortar	Yes	BIP
F8	07 August	1	M43 81mm Mortar	Yes	BIP
E10	27 August	1	105mm HC Smoke Round	No	BIP*
F9	28 November	1	M43 81mm Mortar	Yes	BIP*

* Spartanburg County Sheriff's office responded to and destroyed UXO.

TABLE 2-3 DEMOLITION MATERIALS

Item	Date	Nomenclature	Lot Number	Quantity Consumed	Quantity Remaining
1	21 March	Jet Perforator (Shape charges)	08-29-00	N/A*	40
2	21 March	Electric Blasting Caps	03mao151	N/A*	50
3	21 March	Detonation Cord	26MYOOE9	N/A*	2,000 ft.
4	21 March	Boosters	27oc0004	N/A*	60
5	02 May	Jet Perforator (Shape charges)	08-29-00	1	39
6	02 May	Electric Blasting Caps	03mao151	2	48
7	02 May	Detonation Cord	26MYOOE9	6 ft.	1,994 ft.
8	10 May	Jet Perforator (Shape charges)	08-29-00	1	38
9	10 May	Electric Blasting Caps	03mao151	2	46
10	10 May	Detonation Cord	26MYOOE9	6 ft.	1,988 ft.
11	16 July	Jet Perforator (Shape charges)	08-29-00	1	37
12	16 July	Electric Blasting Caps	03mao151	2	44
13	16 July	Detonation Cord	26MYOOE9	6 ft.	1,982 ft.
14	01 August	Jet Perforator (Shape charges)	08-29-00	1	36
15	01 August	Electric Blasting Caps	03mao151	2	42
16	01 August	Detonation Cord	26MYOOE9	6 ft.	1,976 ft.
17	07 August	Jet Perforator (Shape charges)	08-29-00	1	35
18	07 August	Electric Blasting Caps	03mao151	2	40
19	07 August	Detonation Cord	26MYOOE9	6 ft.	1,970 ft.

* Initial delivery of demolition materials

2.4.7 Scrap Management

2.4.7.1 OE-related scrap certification was an ongoing process throughout the project. All OE scrap was inspected before removal from the site. A four-step visual inspection process conducted by the UXO Technicians, UXOS, SUXOS and UXO QC/SO confirmed that all OE and OE-related scrap was free of any explosive contamination and explosive residue. The SUXOS coordinated removal of all OE scrap by a local scrap dealer, Arrow Steel of Spartanburg, South Carolina for ultimate disposal at a steel mill for recycling. A Department of Defense (DD) Form 1348-1 was completed for each container before release to the scrap dealer (Appendix H). Disposal documentation receipts were generated identifying the day of off-site

removal, approximate scrap weight and signature of the recipient. Smoke canisters were packaged and transported by Safety Kleen for disposal by incineration.

2.4.8 Site Restoration

2.4.8.1 Site restoration was an ongoing process throughout the second geophysical mapping and removal efforts. Red Hill, Inc. provided the equipment and operator. Restoration tasks on approximately five acres included the removal of trees brought to the bottom of the hill by the bulldozer, movement of spoils from the sifter to the cleared grids at the top of the hill, road repair and seeding of cleared grids. Concurrent site restoration activities were not performed in grids that had not been cleared of OE. ZAPATAENGINEERING provided UXO construction support for the moving of soil, trees, and brush in areas adjacent to the grids being cleared of OE. All felled trees and stumps were inspected by UXO technicians for OE prior to disposal. Site restoration and seeding were completed in February 2002. During site restoration (regrading of the hillside with heavy equipment), an additional six expended 105mm projectiles were unearthed by Red Hill, Inc. Four of the six items were inspected by ZAPATAENGINEERING'S UXO Safety Officer, and are maintained by ZAPATAENGINEERING for use as geophysical seed items. The remaining two items were left by Red Hill, Inc. on the project site. When ZAPATAENGINEERING visited the site after restoration, the items were unable to be located in the overgrown grass.

2.5 Project Quality Control

2.5.1 The Project Team implemented the QC process as described in the approved Work Plan. In addition to the QC process implemented by HFA and USA Environmental, 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 and analysis, and evaluation of areas in the field. The performance criterion for the removal project was any metallic item greater than two inches by four inches. The criterion was revised during the second phase of geophysical mapping to a piece of metal equivalent in size (length and/or surface area) to the 60mm mortar without the tail (four inches in length, one and one half inch in diameter). All grids passed government Quality Assurance checks per the applicable criteria.

2.5.2 ZAPATAENGINEERING's Senior Geophysicist performed independent analyses of the geophysical data collected and processed by Blackhawk and NAEVA. He designed the geophysical prove-out plot to include a "blind test" for Blackhawk by burying items with the location unknown to Blackhawk. NAEVA utilized the existing prove-out plot. He was on-site during portions of the prove-out and actual data collection and reacquisition.

2.5.3 ZAPATAENGINEERING's QC Officer inspected each area after removal of the selected targets by the dig teams. Any remaining items suspected to be target items for that site were excavated. If a piece of metal equivalent in size to the specified criterion was found in the previously cleared area during the QC process, this constituted a QC failure. Grid E07N initially failed ZAPATAENGINEERING's quality control for completeness; after re-work, the grid passed the quality control check and subsequent government quality assurance check. All grids passed government quality assurance checks.

TABLE 2-4 PROJECT GRID SUMMARY

Grid	Geophysical Investigation (% Complete)		Anomaly Relocation % Complete	Intrusive Investigation % Complete	% Passing		% Failing	
	Mag/flag	EM61			QC	QA	QC	QA
D8	100%	100%	100%	100%	100%	100%		
D9	100%	100%	100%	100%	100%	100%		
E7	100%	100%	100%	100%	100%	100%	50%	
E8	100%	100%	100%	100%	100%	100%		
E9	100%	100%	100%	100%	100%	100%		
E10	100%	100%	100%	100%	100%	100%		
F7	100%	100%	100%	100%	100%	100%		
F8	100%	100%	100%	100%	100%	100%		
F9	100%	100%	100%	100%	100%	100%		

N – North, S – South, C – Center
HFA conducted mag and flag operations inside ravine in the central parts of grids F8 and F9.

2.6 Lessons Learned

2.6.1 In an area with a significant density of anomalies, such that anomaly discrimination cannot be performed, several approaches may be considered. One approach is to use remotely operated equipment (bulldozer, excavator, sifter) to remove shallow metallic clutter, then proceed with mag-flag-dig or geophysical mapping, anomaly reacquisition and removal. In such areas, a systematic approach to geophysical mapping and relocating also may prove cost effective. By adjusting the sensor to identify larger items, relocating and excavating, then continuing with re-mapping the same area with a more sensitive sensor reading, target discrimination may be obtained after a series of efforts.

3.0 SUMMARY

3.0.1 The former Camp Croft Army Training Facility (CCATF) is located five miles southeast of Spartanburg, South Carolina as shown on Figure B-1 in Appendix B. Ordnance Operable Unit 6 (OOU6) is a 28-acre site located east of Croft State Park on privately owned property adjacent to and south of US Highway 176 Bypass, south of the intersection with State Road 295. The site was previously cleared of ordnance with the exception of 4.13-acres composed of nine contiguous grids. Grids measured 100 ft by 200 ft and were heavily contaminated by metal fragments, most within 12 inches of the ground surface.

3.0.2 ZAPATAENGINEERING, as the prime contractor, utilized a team approach consisting of in-house capabilities and subcontractors to conduct the ordnance removal action at the former Camp Croft Army Training Facility. The on-site investigation tasks included geophysical survey and anomaly reacquisition, intrusive OE investigation, scrap management and quality control checks. The OE removal effort also included a technology demonstration of remotely operated equipment to remove the top layers of soil containing high concentrations of metal fragments. A total of 24,019 digs occurred; seven live OE were detonated. All grids passed government quality assurance prior to final demobilization from the site in December 2001. A project cost summary is in Appendix I. Table 3-1 summarizes site-specific exposure data, as reported in monthly progress reports.

TABLE 3-1 EXPOSURE DATA

	Total Cumulative
Hours Worked	12,697
Number Employees On-site	50
Accidents/Illness	0
Lost Work Hours Due to Accidents/Illness	0
Number of Vehicles	6
Miles Driven	16,195

4.0 REFERENCES

Blackhawk UXO Services, Inc., *Geophysical Survey for Buried Metal Detection at Former Camp Croft, Spartanburg, South Carolina,* June 4, 2001.

Code of Federal Regulations (CFR), *National Oil and Hazardous Substances Pollution Contingency Plan (NCP)*, 40 CFR 300.415, 7/93.

Code of Federal Regulations (CFR), *Reporting Theft or Loss of Explosive Materials*, 27 CFR 55.30, April 1, 2000.

Environmental Science and Engineering, Inc., *Engineering Evaluation/Cost Analysis, Former Camp Croft Army Training Facility, Spartanburg, South Carolina, 1996b*, prepared for the US Army Engineering and Support Center, Huntsville, Alabama, January 1996.

Human Factors Applications, Inc., *Time-Critical Removal Action, Former Camp Croft, Red Hill, Spartanburg, SC, 1995a*, prepared for the US Army Engineering and Support Center, Huntsville, Alabama, February 1995.

Human Factors Applications, Inc., *Time-Critical Removal Action, Former Camp Croft, Red Hill, Spartanburg, SC, 1995b*, prepared for the US Army Engineering and Support Center, Huntsville, Alabama, May 1995.

Human Factors Applications, Inc., *Ordnance Removal Action, Former Camp Croft, Workplan*, prepared for the US Army Engineering and Support Center, Huntsville, Alabama, 10 May 1996.

Human Factors Applications, Inc., *Final Removal Action Report, Ordnance Removal Action, Former Camp Croft, Spartanburg, S*C, prepared for the US Army Engineering and Support Center, Huntsville, Alabama, 12 August 1997.

NAEVA Geophysics Inc., *Report on Geophysical Survey, Camp Croft, Spartanburg, South Carolina*, January 3, 2002.

National Institute of Occupational Safety and Health (NIOSH), *NIOSH Pocket Guide to Chemical Hazards*, June 1997.

Parsons Engineering Science, *OE Engineering Design Report, Ordnance Operable Unit 6 (OOU6), Former Camp Croft Army Training Facility, Spartanburg, SC*, prepared for the US Army Engineering and Support Center, Huntsville, Alabama, December 1997.

US Army Corps of Engineers (USACE), Rock Island District, 1994, *Ordnance and Explosive Waste Archives Search Report for the Former Camp Croft Army Training Facility*.

US Department of the Army, *Explosive Ordnance Disposal Procedures*, TM 60A 1-1-31.

US Department of Defense, *Ammunition and Explosives Safety Standards*, DOD 6055.9-STD, 7/99.

US Occupational Health and Safety Administration (OSHA), 1994, *Hazardous Waste Operations and Emergency Response Training Regulations*, 40 CFR 1910.120, 7/94.

UXB International, Inc., *Final Removal Report, Ordnance Removal Action, Former Camp Croft, OOU-3A, B and C; OOU-6; and OOU-11C and D, Spartanburg, South Carolina*, prepared for the US Army Engineering and Support Center, Huntsville, Alabama, November 2000.

ZAPATAENGINEERING, P.A., *OOU6 Work Plan Addendum to HFA Ordnance Removal Action, Former Camp Croft Work Plan,* March 2001

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX A

SCOPE OF WORK

MODIFICATION 1 TO ZAPATA TASK ORDER AT CAMP CROFT

REVISED February 23, 2001

Ordnance Operable Unit 6: This area has been previously cleared of ordnance by HFA under contract DACA-87-D-0027 with the exception of 9 grids. Each grid is 100 ft x 200 ft and contains considerable metal fragments within one foot of the ground surface. Government furnished remote controlled equipment and operator training/ assistance will be used. The purpose for the use of this equipment is to allow removal of the top 8 – 12 inches of soil which contains most of the metallic debris. All ordnance related operations (within the exclusion zone) shall be performed by the contractor. The specific requirement of this task is to remove all ordnance to a depth of four feet within the 9 grid area.

Detailed work plans (WP), and Final Removal Report (FRR) updates are required. The approved Final documents from the previous contract shall be amended to include the remote equipment and the results of this removal. Distribution of Draft and final submittals shall be per Table 1 of this task order. The draft WP and ESS shall be submitted 15 calendar days after award and the final no more than 10 days after receipt of comments. The FRR is due 20 days after field work completion.

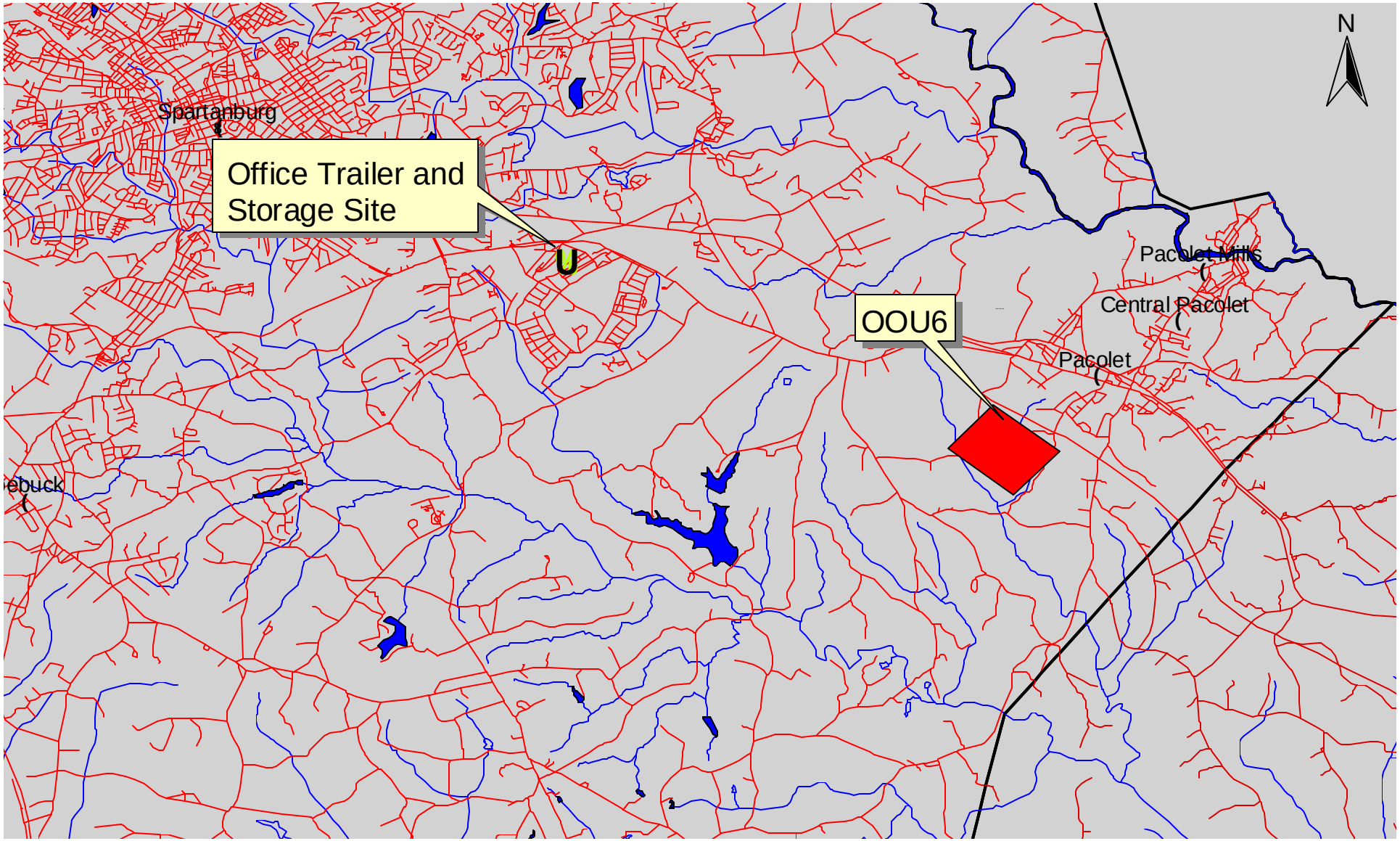
A detailed description of all work accomplished shall be provided in report and presentation format. Both report and presentations shall include photographs and video and or video clips of the robotic operations.

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX B1

GENERAL SITE MAP



5000 0 5000 10000 Feet

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TRUST # INTEGRITY # QUALITY

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
HUNTSVILLE, ALABAMA

LOCATION MAP
OOU6
CAMP CROFT

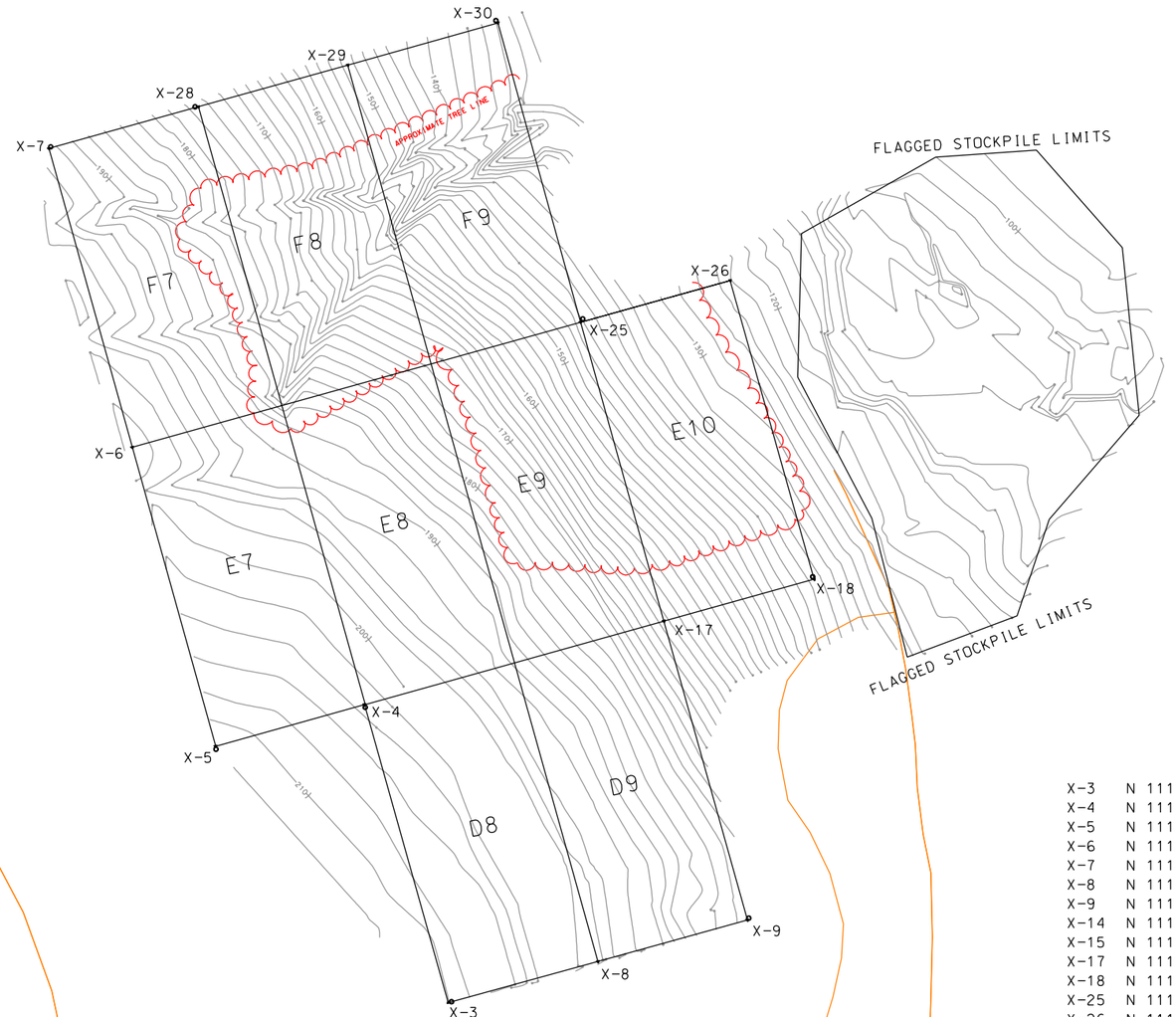
PROJECT #:	PAGE #:	DATE:	DRAWN BY:	SCALE:	FIGURE:
ZE016100	B1-1	08/08/2002	TBB	AS SHOWN	B-1

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX B2

AREA OF INVESTIGATION MAP



X-3	N 1111841.5202	E 1765237.9934	ELEV 210.12	HUB
X-4	N 1112033.6297	E 1765183.9994	ELEV 203.32	NAIL
X-5	N 1112003.7743	E 1765088.0801	ELEV 211.95	NAIL
X-6	N 1112199.4403	E 1765034.3189	ELEV 201.48	NAIL
X-7	N 1112392.0453	E 1764980.5744	ELEV 192.81	NAIL
X-8	N 1111867.9641	E 1765334.4612	ELEV 196.87	NAIL
X-9	N 1111894.7805	E 1765430.8341	ELEV 179.01	NAIL
X-14	N 1112009.8505	E 1765160.7162	ELEV 206.46	NAIL
X-15	N 1111891.9936	E 1765184.6733	ELEV 212.38	NAIL
X-17	N 1112087.4135	E 1765376.9555	ELEV 164.84	NAIL
X-18	N 1112114.4233	E 1765473.7751	ELEV 137.11	NAIL
X-25	N 1112280.0346	E 1765323.3036	ELEV 142.45	NAIL
X-26	N 1112306.9236	E 1765419.7062	ELEV 122.14	NAIL
X-28	N 1112418.9648	E 1765076.8785	ELEV 175.21	NAIL
X-29	N 1112445.8096	E 1765173.2134	ELEV 151.04	NAIL
X-30	N 1112473.0099	E 1765270.0047	ELEV 131.78	NAIL

REFERENCE:
B.P.BARBER & ASSOCIATES, INC. - SURVEY MAP, MARCH 2001

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US ARMY ENGINEERING & SUPPORT CENTER
HUNTSVILLE, ALABAMA

FORMER CAMP CROFT- OOU6
AREA OF INVESTIGATION

CONTRACT #:	PROJECT #:	DATE:	DRAWN BY:	SCALE:	FIGURE:
DACA87-00-D-0034	ZE016100	3-12-2001	RLN	AS SHOWN	B-2

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX C

PHOTOGRAPHS

Photograph #1: Exterior view of the USAF Command and Control Vehicle

Photograph #2 Interior view of the USAF Command and Control Vehicle

Photograph #3: USAF Remotely operated Armored Bulldozer

Photograph #4: USAF Remotely operated Armored Bulldozer

Photograph #5: USAF Remotely Operated Excavator

Photograph #6: USAF Remotely Operated Excavator with boom extended

Photograph #7: USAF Remotely Operated Excavator and Sifter

Photograph #8: From above E08N, looking southeast.

Photograph #9: From above E08N, looking east.

Photograph #10: From above E08N, looking north.

Photograph #11: From above E08N, looking west-northwest.

Photograph #12: From E08N, looking east. The excavator at the bottom of the hill belongs to Red Hill, Inc and is being used to sort debris.

Photograph #13: Grid E08, facing east, with flagged anomalies.

Photograph #14: Grid F07N, facing northeast, with flagged anomalies.

Photograph #15: A UXO team at work.

Photograph #16: NAEVA Geophysicist performing anomaly reacquisition with EM61 on Grid F08N

Photograph #17: NAEVA Geophysicists performing reacquisition with GEM3 on Grid F09N

Photograph #18: Red Hill, Inc sorting debris and earth.

Photograph #19: From above E08N, looking northwest.

Photograph #20: From E08N, looking northwest.

Photograph #21: From top of site above E08N looking west, at conclusion of intrusive investigations and slope stabilization.

Photograph #22: From top of hill above E08N looking north-northwest. The blue tarp is covering hay bails used to help control erosion.

Photograph #23: From above E08N, looking west. The top of the hill has been leveled and hay spread to control erosion.

Photograph #24: From above E08N, looking south.

Photograph #25: An M43 HE Mortar found 28 Nov 2001.

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX D

GEOPHYSICAL DATA

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX D1

GEOPHYSICAL INVESTIGATION DATA MAY 2001

GEOPHYSICAL INVESTIGATION DATA

Location: E-8 South

Date: 09 May 2001

Total Digs: 41 (14 Without Pick Numbers)

Originator: Bob Raesemann

FLAG NUMBER	ITEM	SIZE
613	FRAG	1”
797	FRAG	1”
773	FRAG	2”
751	FRAG	1”
790	FRAG	2”
678	FRAG	1”
762	FRAG	1”
771	FALSE	POSITIVE
760	FRAG	4”
774	FRAG	10”, 18”
690	FRAG	2”
809	FALSE	+
693	FRAG	2”
670	FRAG	3”
659	FRAG	8”
675	81MM WP TAIL BOOM	18”
664	FRAG	1”
666	FRAG	1”
679	FRAG	6”
694	FRAG	4”
801	FALSE	+
778	FRAG	3” (SEVERAL PIECES)
614	81MM WP TAIL BOOM	3”
663	FRAG	2”
792	FRAG	2”
808	FRAG	2”
787	FRAG	8”

GEOPHYSICAL INVESTIGATION DATA

Location: E-8 South Camp Croft, Sc

Date: 10 May 2001

Total Digs: 32 Digs

Originator: Bob Raesemann

FLAG NUMBER	ITEM	SIZE	DEPTH
811	FRAG	1”	4” MULTIPLE PIECES
1054	FRAG	1”	3” MULTIPLE PIECES
736	FRAG	1”	4”
839	FRAG	1”	6”
658	105MM M84 EXPENDED		12”
1048	FRAG	8”	4”
677	FRAG	1”	SURFACE MULTIPLE PIECES
768	FRAG	4”	8” MULTIPLE PIECES
692	FRAG	3”	SURFACE MULTIPLE PIECES
746	FRAG	1”	SURFACE MULTIPLE PIECES
765	FRAG	1”	3” MULTIPLE PIECES
758	FRAG	2”	10” MULTIPLE PIECES
794	FRAG	1”	9” MULTIPLE PIECES
NO#	FRAG	1”	6” MULTIPLE PIECES
776	FRAG	1”	12” MULTIPLE PIECES
783	FRAG	2”	3” MULTIPLE PIECES
NO#	FRAG	2”	4” MULTIPLE PIECES
752	FRAG	6”	3”
798	FRAG	2”	6” MULTIPLE PIECES
061	FRAG	4”	7” MULTIPLE PIECES
661	FRAG	8”	3” MULTIPLE PIECES
754	FRAG	1”	4” MULTIPLE PIECES
1062	FRAG	1”	3” MULTIPLE PIECES
740	FRAG	2”	2”
764	FUZE M48		SURFACE
NO#	CANISTER	6”	
051	FRAG	2”	10” MULTIPLE PIECES
796	FRAG	2”	8” MULTIPLE HITS
818	FRAG	3”	2” MULTIPLE HITS
1066	FRAG	1”	1”
649	60MM M49		4”
1065	60MM M49		4”

GEOPHYSICAL INVESTIGATION DATA

Location: _D-8 North Camp Croft, Sc

Date: _14 May 2001

Total Digs: 129

Originator: Bob Raesemann

FLAG NUMBER	ITEM	SIZE	DEPTH
567	FRAG	1”	2”
212	FRAG	1”	1”
1123	FRAG	2”	4”
465	FRAG	4”	6”
99	105 BASE PLATE		SURFACE
1124	FRAG	1”	2”
571	FRAG	2”	4”
1116	FRAG	2”	1”
574	FRAG	1”	3”
596	FRAG	1”	3”
1134	FRAG	1”	1”
586	FRAG	2”	2”
590	FINS 60MM		SURFACE
604	FRAG	1”	SURFACE
1122	FRAG	2”	3”
599	FRAG	1”	SURFACE
721	FRAG	3”	3”
648	FRAG	2”	6”
572	FRAG	3”	SURFACE MULTIPLE PIECES
589	FRAG	1”	3”
598	FRAG	1”	6”
540	FRAG	3”	2”
594	FRAG	3”	2”
1133	FRAG	1”	6”
524	FRAG	1”	2”
580	TAIL FINS 60MM		3”
1118 (?)	FRAG	?	?
928	FRAG	1”	3”
126	HC CANISTER		6”
1210	FRAG	1”	1”
200	FRAG	3”	2”
125	FRAG	1”	2”
592	FRAG	1”	1”
1215	FRAG	2”	2”
591	FRAG	2”	4”

FLAG NUMBER	ITEM	SIZE	DEPTH
201	FRAG	1”	3”
607	FRAG	3”	SURFACE
608	FRAG	1”	SURFACE
NO #	FRAG	1”	2”
606	FRAG	3”	1”
005	FRAG	1”	1”
527	M48 FUZE		2”
1127	FRAG	3”	1”
1213	FRAG	3”	3”
1214	FRAG	2”	2”
582	FRAG	4”	1”
502	FRAG	2”	3”
577	FRAG	2”	1” MULTIPLE PIECES
130	FRAG	3”	6”
573	FRAG	3”	3”
588	FRAG	3”	6”
569	FRAG	1”	4”
565	FRAG	1”	SURFACE
347	FRAG	2”	3”
1203	FRAG	3”	2”
769	FRAG	1”	2”
761	FRAG	1”	2” MULTIPLE PIECES
1212	FRAG	1”	3”
647	FRG	1”	4”
646	FRAG	4”	2” MULTIPLE PIECES
581	FRAG	3”	3” MULTIPLE PIECES
593	FRAG	1”	3”
639	105MM M84 EXPENDED		
1147	FRAG	1”	1”
1069	FRAG	1”	1”
579	FRAG	1”	3”
541	FRAG	3”	2” MULTIPLE PIECES
1209	FRAG	1”	3”
584	FRAG	1”	2”
1208	FRAG	1”	1” MULTIPLE PIECES
519	FRAG	6”	4”
644	FRAG	2”	2” MULTIPLE PIECES
493	FRAG	2”	3”
643	TAIL FINS 81MM		6”
530	TAIL FINS 60MM		3”
1199	FRAG	1”	2”
1201	FRAG	1”	1”
939	FRAG	1”	1”
449	TAIL FINS 60MM		3”
1070	FRAG	1”	1” MULTIPLE PIECES
564	FRAG	1”	6”
1344	FRAG	1”	SURFACE
442	FRAG	1”	2”
562	FRAG	1”	6”

FLAG NUMBER	ITEM	SIZE	DEPTH
1135	FRAG	2”	4”
481	FRAG	1”	1”
485	BASE PLATE 105MM		4”
1131	FRAG	1”	2”
474	FRAG	4”	6”
1132	FINS 60MM		8”
508	FRAG	3”	6”
546	FRAG	2”	2”
560	FRAG	1”	6” MULTIPLE PIECES
566	FRAG	1”	2”
946	HC CANISTER & FRAG		8” MULTIPLE PIECES
1136	FRAG	2”	4”
1137	FRAG	1”	3”
940	FRAG	6”	2” MULTIPLE PIECES
1151	FRAG	1”	6” MULTIPLE PIECES
1150	FRAG	1”	2”
926	FALSE POSITIVE		
919	FRAG	2”	2”
1148	FRAG	2”	2”
1128	FRAG	1”	2”
927	FRAG	1”	2”
440	105MM M84 EXPENDED		*2’
1144	FRAG	1”	3”
937	FRAG	1”	3”
923	FRAG	1”	1”
1129	FRAG	1”	1”
945	FRAG	4”	4”
916	FRAG	1”	3”
1149	FRAG	1”	3”
922	FRAG	2”	2”
1154	FRAG	3”	3”
1145	FRAG	1”	2”
948	FRAG	1”	2” MULTIPLE PIECES
1165	FRAG	1”	SURFACE
1146	FRAG	1”	6” MULTIPLE PIECES
1165	FRAG	3”	4”
925	FRAG	2’	6” MULTIPLE PIECES
1166	FRAG	4”	5” MULTIPLE PIECES
1160	FRAG	1”	2”
941	FRAG	1”	2”
942	FRAG	2”	2”
1152	FRAG	2”	2”
167	FRAG	1”	2” MULTIPLE PIECES
950	FRAG	5”	2”
1153	FRAG	1”	4”

GEOPHYSICAL INVESTIGATION DATA

Location: E-8 South Camp Croft, Sc

Date: 14 May 2001

Total Digs: 158

Originator: Bob Raesemann

FLAG NUMBER	ITEM	SIZE	DEPTH
618	FRAG	1”	2”
620	FRAG	1”	2”
NO#	105 BASE PLUG		1”
068	FRAG	1”	SURFACE
067	METAL DISK		1”
848	FRAG	3”	6”
047	105 BASE PLUG		2”
653	FRAG	6”	10” MULTIPLE PIECES
852	FRAG	3”	10”
851	FRAG	14”	6” POSITIONED VERTICALLY
207	FRAG	1”	3”
843	FRAG	8”	8”
656	FRAG	1”	1”
211	FRAG	1”	1”
651	FRAG	10”	SURFACE
206	FRAG	1”	3”
1205	FRAG	1”	2”
814	FRAG	1”	3”
747	FRAG	2”	1”
676	FRAG	1”	1”
673	FRAG	6”	2”
833	FRAG	4”	3”
767	FRAG	3”	6” MULTIPLE PIECES
742	FRAG	2”	4”
NO #	FRAG	2”	3”
1204	FRAG	2”	2”
NO#	FRAG	1”	3”
NO#	FRAG	3”	2” MULTIPLE PIECES
753	FRAG	1”	3”
835	FRAG	2”	6” MULTIPLE PIECES
NO#	FRAG	4”	2” MULTIPLE PIECES
757	FRAG	2’	SURFACE
777	FRAG	2”	4”
780	FRAG	1”	SURFACE
668	FRAG	1”	2”

FLAG NUMBER	ITEM	SIZE	DEPTH
672	FRAG	8”	4”
737	FRAG	2”	4”
786	FRAG	4”	4” MULTIPLE PIECES
1073	FRAG	2”	3”
779	FRAG	4”	6”
674	FRAG	3”	SURFACE
810	FRAG	6”	2”
830	105MM WP EXPENDED		8”
NO#	FRAG	1”	4”
774	FRAG	1”	1”
771	FRAG	1”	3”
688	SURVEY NAIL		
NO#	FRAG	1”	1”
741	FRAG	4”	SURFACE
1050	FRAG	1”	3”
683	FRAG	1”	SURFACE
1063	FRAG	2’	1”
NO#	FRAG	1”	SURFACE
831	FRAG	6”	4”
749	FRAG	1”	3”
802	FRAG	8”	1”
081	FRAG	3”	3”
NO#	FRAG	3”	SURFACE
NO#	FRAG	1”	1”
772	FRAG	1”	3”
834	FRAG	5”	4”
788	FRAG	3”	6”
049	FRAG	4”	3”
691	FRAG	2”	2”
689	FRAG	1”	1”
789	FALSE POSITIVE		
682	FRAG	1”	1”
807	FRAG	3”	3”
1053	FRAG	3”	3”
799	FRAG	1”	2”
793	FRAG	1”	1”
834	FRAG	1”	1”
NO#	FRAG	1”	3”
748	FRAG	2”	SURFACE
832	FRAG	8”	3”
791	FRAG	4”	3”
804	FRAG	1”	5”
671	FRAG	2”	8”
775	FRAG	6”	4” MULTIPLE PIECES
781	FRAG	1”	SURFACE
744	FRAG	3”	SURFACE
759	FRAG	8”	4”
784	FRAG	2”	2” MULTIPLE PIECES
1052	FRAG	1”	1”

FLAG NUMBER	ITEM	SIZE	DEPTH
36	FRAG	2”	6”
685	FRAG	1”	1”
840	FRAG	4”	2”
NO#	FRAG	1”	1”
859	FRAG	2”	6”
857	FRAG	1”	SURFACE
849	FRAG	8”	4”
303	FRAG	1”	1”
845	FRAG	4”	2” MULTIPLE PIECES
484	105MM BASE PLATE		2”
189	FRAG	4”	3”
513	FRAG	4”	3”
743	FRAG	4”	4”
554	FRAG	6”	SURFACE
669	FRAG	6”	1” MULTIPLE PIECES
657	M48 FUZE		SURFACE
453	105MM M84 EXPENDED		6”
585	FRAG	1”	4”
665	FRAG	1”	2” MULTIPLE PIECES
536	FRAG	4”	3” MULTIPLE PIECES
533	FRAG	1”	6” MULTIPLE PIECES
575	FRAG	1”	2”
763	FRAG	6”	2”
766	FRAG	2”	6”
NO#	FRAG	3”	12” MULTIPLE PIECES
770	FRAG	1”	4”
785	FRAG	1”	4”
54	FRAG	1”	1”
52	FRAG	1”	2”
059	FRAG	2”	2”
064	FRAG	1”	2”
655	FRAG	1”	3”
613	105MM BASE PLATE		1”
931	FRAG	1”	SURFACE
630	FRAG	1”	SURFACE
625	FRAG	1”	3” MULTIPLE PIECES
615	FRAG	1”	8” MULTIPLE PIECES
617	FRAG	1”	6” MULTIPLE PIECES
687	105MM M84 EXPENDED		20”
1058	FRAG	1”- 3”	10” MULTIPLE PIECES
929	FRAG	1”	3” MULTIPLE PIECES
934	FRAG	1”	1”
935	FRAG	2”	2”
628	FRAG	2”	2”
NO#	FRAG	1”	SURFACE
635	FRAG	1”	1”
624	FRAG	2”	4”

FLAG NUMBER	ITEM	SIZE	DEPTH
633	FRAG	2”	4”
621	FRAG	1”	1”
629	FRAG	1”	1”
626	FRAG	5”	3”
632	FRAG	1”	1”
636	WIRE		SURFACE
846	FRAG	1”	5”
637	FRAG	1”	1”
1072	FRAG	1”	3” MULTIPLE PIECES
738	FRAG	1”	4”
805	FRAG	3”	3” MULTIPLE PIECES
815	FRAG	1”	2” MULTIPLE PIECES
745	FRAG	4”	SURFACE MULTIPLE PIECES
739	FRAG	1”	1”
812	FRAG	4”	3”
816	FRAG	1”	3”
734	FRAG	1”	4” MULTIPLE PIECES
795	FRAG	1”	SURFACE MULTIPLE PIECES
817	FRAG	2”	3”
735	FRAG	4”	2”
1071	FRAG	3”	6” MULTIPLE PIECES
756	FRAG	3”	2”
755	FRAG	1”	1”
842	FRAG	3”	3” MULTIPLE PIECES
806	FRAG	2”	1” MULTIPLE PIECES
841	FRAG	4”	6” MULTIPLE PIECES

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX D2

GEOPHYSICAL INVESTIGATION DATA NOVEMBER TO DECEMBER 2001

OOU6 Flags/Digs November - December 2001				
GRID	**EM-61**	**GEM-3**	**QC/EM-61**	**TOTAL PER GRID**
E09N	170	84	111	365
E10N	170	135	101	406
E10S	86	51	70	207
F08N	117	71	76	264
F09N	112	261	64	437
F09S	97	247	68	412
TOTAL	752	849	490	2091

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
1			Frag	1.00
2			Frag	1.00
3			Frag	.25
4			Frag	1.00
5			M84 105mm Projectile smoke expended	.50
6			Frag	1.00
7			Frag	.00
8			Frag	.25
9			Frag	.25
10			Frag	.25
11			M84 105mm Projectile smoke expended	.75
12			Frag	.25
13			Frag	.25
14			Frag	.25
15			Frag	1.00
16			Frag	1.00
17			Expended Mortar M48 Fuze/Frag	.25
18			Frag	.75
19			Frag	.75
20			Frag	.25
21			Frag	.75
22			Frag	.25
23			Frag	.25
24			Frag	1.00
25			M84 105mm Projectile smoke expended	1.50
26			Frag	.50
27			Frag	.25
28			Frag	.75
29			Frag	.50
30			Frag	.50
31			Frag	.75
32			Frag	.75
33			M84 105mm Projectile smoke expended	.75
34			Frag	.00
35			Frag	.75
36			Frag	.25
37			Frag	1.00
38			Frag	1.50
39			Frag	.25
40			Frag	.75
41			Frag	.25
42			Frag	1.00

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
43			Frag	.75
44			Frag	.25
45			Frag	.75
46			Frag	.25
47			Frag	.25
48			Frag	.75
49			Frag	1.25
50			M49 60mm Mortar Fins/Frag	1.00
51			M84 105mm Projectile Base Plate	.75
52			Frag	1.00
53			Frag	1.00
54			Frag	.25
55			Frag	.25
56			Frag	2.50
57			Frag	.50
58			Frag	.25
59			Frag	.25
60			Frag	.25
61			Frag	.25
62			Frag	.25
63			Frag	.50
64			Frag	.75
65			Frag	.25
66			Frag	.25
67			Frag	1.00
68			Frag	.25
69			Frag	.25
70			Frag	.25
71			Frag	.50
72			Frag	.25
73			Frag	.25
74			Frag	1.00
75			Frag	.75
76			Expended Mortar M48 Fuze/Frag	1.00
77			Expended Mortar M48 Fuze/Frag	1.00
78			Frag	.25
79			Frag	.25
80			Frag	2.00
81			Frag	.25
82			Frag	.50
83			Frag	.00
84			Expended Mortar M48 Fuze/Frag	.25

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
85			Frag	.25
86			Frag	.25
87			Frag	.25
88			Frag	.25
89			Frag	.50
90			Frag	1.00
91			Frag	.00
92			Frag	.00
93			Expended Mortar M48 Fuze/Frag	.25
94			Frag	.50
95			Frag	.50
96			Frag	.25
97			Frag	.25
98			Frag	.75
99			Frag	.50
100			Frag	1.00
101			Frag	.50
102			Frag	.75
103			Frag	.75
104	64		Frag	1.00
105			Frag	1.00
106			Frag	1.25
107			Frag	.25
108			Frag	.25
109			Frag	.50
110			Frag	.50
111			Frag	1.50
112			Frag	1.00
113			Frag	.25
114			M49 60mm Mortar Fins/Frag	1.00
115			Frag	.25
116			Frag	1.00
117			Frag	1.00
118			Frag	.25
119			Frag	1.50
120			Frag	.25
121			Frag	1.00
122			Frag	.50
123			Frag	1.50
124			Frag	.25
125			Frag	.75
126			Frag	1.50

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
127			Frag	.25
128			Frag	.25
129			Frag	.25
130			Expended Mortar M48 Fuze/Frag	.25
131			Expended Mortar M48 Fuze/Frag	.25
132			Frag	.00
133			Frag	.00
134			Survey Nail	.25
135			Frag	.25
136	60		Expended Mortar M48 Fuze/Frag	.25
137			Frag	.00
138			Frag	.00
139			Frag	.25
140			Frag	.50
141			Frag	.50
142			Frag	1.00
143			Frag	.25
144			Frag	.25
145			Frag	.25
146			M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister/Frag	.75
147			Frag	1.00
148			Frag	.00
149			Frag	.25
150	76		Survey Nail	.25
151			Expended Mortar M48 Fuze/Frag	2.25
152			Frag	1.75
153			Frag	.25
154			Frag	1.00
155			M49 60mm Mortar Fins/Frag	.25
156			Frag	1.00
157			Frag	.25
158			Frag	.75
159			Frag	.25
160			Frag	.25
161			Frag	.50
162			Frag	.50
163			Frag	.25
164			Frag	.25
165			Frag	.25
166			Frag	1.00
167			Frag	.25
168			Frag	.25

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
169			Expended Mortar M48 Fuze/Frag	2.25
170			Expended Mortar M48 Fuze/Frag	.25
	1		Frag	1.00
	2		Frag	1.00
	3		Lead weight	.75
	4		Frag	.25
	5		Frag	.25
	6		Frag	1.00
	7		Frag	.25
	8		Frag	.25
	9		Frag	.50
	10		Frag	.25
	11		Frag	.25
	12		Frag	.50
	13		Frag	.25
	14		Expended Mortar M48 Fuze/Frag	.25
	15		Frag	.50
	16		Frag	1.50
	17		Frag	1.50
	18		Expended Mortar M48 Fuze/Frag	.25
	19		M84 105mm Projectile Projectile Unexpended M84 Smoke Cannister	.50
	20		Frag	.25
	21		Frag	.25
	22		Frag	.25
	23		Frag	1.00
	24		Frag	.75
	25		Frag	.25
	26		M49 60mm Mortar Fins/Frag	.75
	27		Frag	.75
	28		Frag	1.50
	29		Frag	.25
	30		Frag	.50
	31		Frag	.25
	32		Negative Find	.00
	33		Frag	.75
	34		M49 60mm Mortar Fins/Frag	.75
	35		Frag	.25
	36		Frag	.50
	37		Frag	.50
	38		Frag	.25
	39		Frag	.25
	40		Frag	.25

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	41		Frag	.50
	42		Frag	.50
	43		Expended Mortar M48 Fuze/Frag	.25
	44		Frag	1.00
	45		Frag	.50
	46		Frag	1.00
	47		Frag	.75
	48		Frag	.25
	49		Frag	1.00
	50		Frag	.75
	51		Frag	.25
	52		Frag	.25
	53		Frag	.75
	54		Frag	.25
	55		Frag	.25
	56		Frag	.50
	57		M84 105mm Projectile smoke expended	4.00
	58		Frag	.50
	59		M49 60mm Mortar Fins/Frag	.50
	61		Frag	.50
	62		Frag	1.00
	63		Frag	.25
	65		Frag	.50
	66		Frag	.50
	67		Frag	1.25
	68		Frag	.25
	69		Expended Mortar M48 Fuze/Frag	.50
	70		Frag	.50
	71		White Phos/Frag	.25
	72		Frag	1.00
	73		Frag	.25
	74		M84 105mm Projectile Base Plate	.75
	75		Frag	1.00
	77		Frag	.25
	78		Frag	.25
	79		Frag	.25
	80		Frag	1.25
	81		Frag	.25
	82		Frag	.25
	83		Frag	.25
	84		Frag	.50
		1	Frag	.00

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		2	Expended Mortar M48 Fuze/Frag/M84 105mm Projectile Base Plate	.50
		3	Frag	1.00
		4	M84 105mm Projectile smoke expended	2.00
		5	Frag	2.00
		6	M84 105mm Projectile smoke expended	2.25
		7	Frag	1.00
		8	Frag	1.00
		9	Frag	1.50
		10	Frag	.75
		11	Frag	1.50
		12	Frag	.50
		13	Frag	.75
		14	Frag	1.00
		15	Frag	.25
		16	Expended Mortar M48 Fuze/Frag	.50
		17	Frag	.75
		18	Frag	1.00
		19	Frag	.00
		20	Frag	.50
		21	Frag	.50
		22	Frag	.50
		23	M49 60mm Mortar Fins/Frag	.50
		24	Frag	.50
		25	Frag	.50
		26	Frag	.50
		27	Frag	.50
		28	Frag	1.00
		29	Frag	.50
		30	Frag	1.00
		31	Frag	.25
		32	Frag	.75
		33	Frag	.25
		34	Frag	.00
		35	Frag	1.50
		36	Frag	.50
		37	Frag	.25
		38	Frag	.75
		39	M49 60mm Mortar Fins/Frag	.25
		40	Frag	.50
		41	Frag	.50
		42	Frag	.75
		43	Frag	.75

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		44	Frag	.50
		45	Frag	.50
		46	Frag	.75
		47	Frag	.25
		48	Frag	2.00
		49	Frag	.50
		50	Frag	.50
		51	Frag	.75
		52	Frag	.25
		53	Frag	.25
		54	Frag	.50
		55	Frag	.50
		56	Frag	.50
		57	Frag	.25
		58	Frag	.25
		59	Frag	1.50
		60	Frag	.25
		61	Frag	.25
		62	Frag	.25
		63	Expended Mortar M48 Fuze/Frag	.25
		64	Frag	.25
		65	Frag	.25
		66	Frag	.75
		67	Frag	.50
		68	Frag	1.00
		69	Frag	.25
		70	Expended Mortar M48 Fuze/Frag	.50
		71	Expended Mortar M48 Fuze/Frag	.25
		72	Frag	1.50
		73	Frag	.25
		74	Frag	1.00
		75	Frag	.00
		76	Frag	1.00
		77	Frag	.50
		78	Frag	.75
		79	Frag	.25
		80	Frag	.50
		81	Frag	.75
		82	Frag	.50
		83	Frag	.25
		84	Frag	.75
		85	Frag	.50

Grid E09N				
EM-61 Green	**GEM-3 Blue**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		86	Frag	.25
		87	Frag	.25
		88	Frag	.25
		89	Frag	.25
		90	Frag	1.50
		91	Frag	.50
		92	Frag	.25
		93	Expended Mortar M48 Fuze/Frag	.00
		94	Frag	.25
		95	Frag	.25
		96	M49 60mm Mortar Fins/Frag	.25
		97	Frag	1.00
		98	Frag	.25
		99	Frag	1.00
		100	Frag	.25
		101	Frag	.25
		102	Frag	1.00
		103	Frag	3.25
		104	Frag	.25
		105	Frag	.75
		106	Frag	.50
		107	Frag	.50
		108	Frag	.75
		109	Frag	2.25
		110	Frag	.25
		111	Frag	.25
EM-61		**170**	**TOTAL DEPTH IN FEET**	**215.50**
GEM-3		**84**		
QC		**111**		
TOTAL DIGS		**365**		

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
1	20		M84 105mm Projectile smoke expended	.25
2	3		M84 105mm Projectile smoke expended	.50
3	1		Unexpended M84 Smoke Cannister	1.00
4			Frag	.25
5			Expended Mortar M48 Fuze/Frag	1.00
6			Frag	.25
7			Frag	.25
8			Frag	3.00
9			Frag	.50
10	80		Frag	.25
11			Frag	.25
12			Frag	.50
13			Frag	.25
14			Frag	.25
15	124		M84 105mm Projectile smoke expended	2.50
16			Frag	1.00
17			Frag	.50
18			Frag	.50
19			Frag	1.00
20			Frag	2.75
21			Frag	.50
22			Frag	.25
23			Frag	.25
24			Frag	.25
25			Frag	.50
26			Frag	.25
27			Frag	.75
28			Frag	2.00
29			Frag	.50
30			Frag	1.25
31			Frag	.25
32			Frag	.50
33	23		Frag	.25
34			M49 60mm Mortar Fins/Frag	.25
35			Frag	1.00
36			Frag	.25
37			Frag	.25
38			Frag	.50
39			Frag	.25
40	99		Frag	.25
41			Frag	.50

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
42			Frag	.50
43			Frag	1.00
44			Frag	1.50
45			Frag	.75
46			Frag	.75
47			Frag	.25
48			Frag	.25
49			Frag	.50
50			Frag	.00
51			M84 105mm Projectile Base Plate	1.50
52			M84 105mm Projectile Projectile/Unexpended M84 Smoke Cannister	.00
53			M84 105mm Projectile smoke expended	2.25
54			Frag	.50
55	75		Frag	.50
56			Frag	.50
57			Frag	.25
58			Frag	.25
59			Frag	1.00
60			Frag	.25
61			Frag	1.25
62			Frag	.25
63			Frag	.50
64			Frag	.75
65			Frag	.50
66			Frag	.25
67			Frag	1.00
68			Frag	.50
69			Frag	.25
70			Frag	.25
71			Frag	.25
72			Frag	.50
73			Frag	1.50
74			Frag	.25
75			Frag	.50
76			Frag	.25
77			Frag	.25
78			Frag	1.00
79			Frag	1.50
80			Frag	1.00
81			Expended Mortar M48 Fuze/Frag	.50
82	70		Frag	1.00
83			Frag	.50

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
84			Frag	.25
85			Frag	1.00
86			Frag	.50
87	49		Frag	.25
88			Frag	1.00
89			M84 105mm Projectile Base Plate/Frag	.25
90			Frag	2.00
91			Frag	.25
92			Frag	2.00
93			Frag	.25
94			Frag	1.00
95			Frag	.25
96			Frag	.25
97			Frag	2.25
98			M49 60mm Mortar Fins/Frag	.25
99	41		M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister	.00
100			Frag	.25
101			Frag	.50
102			Frag	.25
103			Frag	.25
104			Frag	.25
105			Frag	1.00
106			Frag	1.00
107			Frag	1.50
108			Frag	.50
109			Frag	.25
110			Frag	.25
111	4		M49 60mm Mortar Fins/Frag	1.00
112			Frag	.25
113			Frag	1.00
114			Frag	.00
115			Frag	.25
116			Frag	.50
117			Frag	.50
118			Frag	.50
119	30		Frag	.50
120			Frag	.25
121			Frag	.25
122			Frag	.25
123			Frag	.50
124			Frag	1.00
125			Frag	.25

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
126			Frag	.25
127			Frag	.25
128			Frag	.25
129			Frag	.75
130			Frag	.50
131			Frag	.25
132			Frag	.25
133			Frag	.25
134			M84 105mm Projectile Base Plate/Frag	.50
135			M49 60mm Mortar Fins/Frag	.25
136			Frag	1.00
137			Frag	.25
138			M84 105mm Projectile Base Plate	.50
139			Frag	1.00
140			Frag	1.50
141			Frag	1.50
142			Frag	.25
143			Frag	.00
144			Frag	.75
145			Frag	1.00
146	57		Frag	1.00
147			Frag	.50
148			Frag	.50
149			Frag	.25
150			M49 60mm Mortar Fins/Frag	.50
151			Frag	.50
152			Frag	.25
153			Frag	.25
154			Expended Mortar M48 Fuze/Frag	.50
155	127		Frag	1.00
156			Frag	.25
157			Frag	.25
158			Frag	.25
159			Frag	.00
160			Frag	.50
161			Frag	.25
162			Frag	.25
163			Frag	.50
164			Frag	.25
165			Frag	.25
166			Frag	.50
167			Frag	1.00

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
168			M49 60mm Mortar Fins/Frag	.75
169			Frag	1.50
170			Frag	.25
	2		Frag	.25
	5		Frag	.25
	6		M49 60mm Mortar Fins/Frag	.50
	7		Frag	.25
	8		Frag	.25
	9		Frag	.50
	10		M49 60mm Mortar Fins/Frag	1.00
	11		Frag	.50
	12		Frag	.50
	13		Frag	.50
	14		Frag	.25
	15		M84 105mm Projectile Base Plate	.25
	16		Frag	1.00
	17		M49 60mm Mortar Fins/Frag	.25
	18		Frag	.25
	19		M84 105mm Projectile Base Plate	.50
	21		Frag	.25
	22		Frag	.50
	24		M49 60mm Mortar Fins/Frag	.25
	25		Frag	.25
	26		Expended Mortar M48 Fuze/Frag	1.00
	27		Frag	.25
	28		Frag	.25
	29		Expended Mortar M48 Fuze/Frag	1.00
	31		Frag	1.00
	32		Frag	.25
	33		Frag	.50
	34		Frag	.50
	35		Frag	.25
	36		Frag	.25
	37		M84 105mm Projectile Base Plate	.25
	38		Frag	.75
	39		Frag	.75
	40		Frag	.25
	42		Frag	.25
	43		Expended Mortar M48 Fuze/Frag	.50
	44		Expended Mortar M48 Fuze/Frag	.00
	45		Frag	1.50
	46		Expended Mortar M48 Fuze/Frag	.50

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	47		Frag	.25
	48		M49 60mm Mortar Fins/Frag	1.00
	50		Expended Mortar M48 Fuze/Frag	1.00
	51		Frag	.25
	52		Frag	.50
	53		Frag	.25
	54		Frag	.25
	55		Frag	1.00
	56		Frag	.25
	58		Frag	.25
	59		Frag	1.00
	60		Frag	.25
	61		Frag	.75
	62		M49 60mm Mortar Fins/Frag	.25
	63		Frag	.25
	64		Frag	.50
	65		Frag	.50
	66		Frag	.75
	67		Frag	.25
	68		Frag	.25
	69		Frag	1.00
	71		Frag	.25
	72		Expended Mortar M48 Fuze/Frag	.25
	73		Frag	.25
	74		Frag	.25
	76		Frag	.25
	77		Frag	.25
	78		Frag	.25
	79		Frag	.50
	81		Frag	.25
	82		Frag	.25
	83		M49 60mm Mortar Fins/Frag	.50
	84		Frag	.50
	85		Frag	.25
	86		M49 60mm Mortar Fins/Frag	.50
	87		Frag	.25
	88		Frag	.50
	89		Frag	1.00
	90		M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister/Frag	.50
	91		Frag	.50
	92		Frag	.50
	93		M49 60mm Mortar Fins/Frag	.25

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	94		Frag	1.00
	95		Frag	.25
	96		Frag	1.00
	97		Frag	.25
	98		Frag	.25
	100		M84 105mm Projectile Base Plate	1.50
	101		Frag	.50
	102		Expended Mortar M48 Fuze/Frag	.25
	103		Frag	.50
	104		Frag	.50
	105		Frag	.50
	106		Frag	.25
	107		Frag	.50
	108		Frag	.50
	109		Frag	1.00
	110		Frag	.25
	111		Frag	.25
	112		Frag	.25
	113		Frag	.25
	114		Frag	.25
	115		Frag	.50
	116		Frag	.25
	117		M84 105mm Projectile Base Plate	1.00
	118		Frag	1.00
	119		Frag	.25
	120		Expended Mortar M48 Fuze/Frag	.50
	121		Frag	2.00
	122		Frag	1.00
	123		Frag	1.50
	125		Frag	.25
	126		Frag	.25
	128		Frag	.25
	129		Frag	.25
	130		Frag	.50
	131		Frag	.25
	132		Frag	.25
	133		Frag	.00
	134		Frag	.25
	135		Frag	1.50
		1	Frag	1.25
		2	Frag	.00
		3	Frag	1.00

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		4	Frag	1.00
		5	M84 105mm Projectile Base Plate	.25
		6	Frag	.00
		7	Frag	1.50
		8	Frag	1.00
		9	Frag	2.00
		10	Frag	1.00
		11	M84 105mm Projectile smoke exp/Frag	3.00
		12	Frag	.75
		13	Frag	.75
		14	M84 105mm Projectile Base Plate	.00
		15	Expended Mortar M48 Fuze/Frag	.00
		16	Frag	1.00
		17	M84 105mm Projectile Base Plate	.50
		18	Frag	.75
		19	Frag	.25
		20	Frag	1.00
		21	Frag	.50
		22	Expended Mortar M48 Fuze/Frag	1.00
		23	Frag	1.00
		24	Frag	.75
		25	Frag	.50
		26	Frag	.50
		27	Frag	1.25
		28	Frag	1.75
		29	M49 60mm Mortar Fins/Frag	.00
		30	Frag	.75
		31	Frag	1.00
		32	M84 105mm Projectile Base Plate/Frag	.75
		33	Frag	.50
		34	Frag	1.00
		35	Frag	1.00
		36	Frag	.25
		37	Expended Mortar M48 Fuze/Frag	1.00
		38	Frag	.50
		39	Frag	1.50
		40	Frag	.25
		41	Frag	1.50
		42	Frag	.25
		43	Frag	1.25
		44	Frag	.75
		45	Frag	.00

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		46	Frag	1.00
		47	Frag	1.00
		48	M49 60mm Mortar Fins/Frag	.50
		49	Frag	.75
		50	Frag	.75
		51	M84 105mm Projectile Base Plate/Frag	.25
		52	Frag	.50
		53	Frag	1.00
		54	Frag	.25
		55	Expended Mortar M48 Fuze/Frag	.00
		56	Frag	1.00
		57	Frag	1.00
		58	Frag	.50
		59	M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister/Frag	1.00
		60	Frag	.75
		61	Frag	.75
		62	Frag	1.00
		63	M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister/Frag	.75
		64	Frag	.25
		65	M49 60mm Mortar Fins/Frag	.50
		66	Expended Mortar M48 Fuze/Frag	1.00
		67	Frag	.50
		68	Frag	.75
		69	Frag	.50
		70	Frag	.75
		71	Frag	.50
		72	Frag	.75
		73	Frag	2.00
		74	M49 60mm Mortar Fins/Frag	1.00
		75	Frag	1.00
		76	Frag	1.25
		77	Frag	.25
		78	Frag	.25
		79	Frag	.50
		80	Frag	.50
		81	Frag	1.00
		82	Frag	.50
		83	Frag	.75
		84	Frag	1.00
		85	Frag	2.00
		86	Frag	.50
		87	Frag	1.00

Grid E10N				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		88	Frag	.25
		89	Frag	.75
		90	Frag	.75
		91	Frag	.50
		92	Frag	.50
		93	Frag	.25
		94	Frag	.75
		95	Frag	.75
		96	Frag	.25
		97	Expended Mortar M48 Fuze/Frag	.00
		98	Frag	.25
		99	Frag	.25
		100	Frag	.50
		101	Frag	.75
EM-61		**170**	**TOTAL DEPTH IN FEET**	**236.00**
GEM-3		**135**		
QC		**101**		
TOTAL DIGS		**406**		

Grid E10S				
EM-61 Green	**GEM-3 Orange**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
1	1		M84 105mm Projectile smoke expended	.25
2			Frag	.50
3			M84 105mm Projectile smoke expended	1.00
4			M84 105mm Projectile smoke expended	1.00
5			Frag	1.50
6			Frag	.25
7			Frag	.00
8			Frag	.50
9			Frag	.25
10			M84 105mm Projectile Base Plate	1.00
11	32		Frag	.75
12			Frag	.25
13			Frag	1.00
14			Frag	1.50
15			Frag	.25
16			M84 105mm Projectile Base Plate/Frag	.25
17			Expended Mortar M48 Fuze/Frag	1.50
18			Frag	.25
19			Frag	1.00
20			Frag	.25
21			M84 105mm Projectile Base Plate/Frag	1.00
22			Frag	.25
23			Frag	.25
24			Frag	.25
25			Frag	.25
26			Frag	.75
27			Frag	1.00
28			Survey Nail	.25
29			M49 60mm Mortar Fins/Frag	.25
30			Frag	.50
31			Frag	.25
32			Frag	.25
33			Frag	.25
34			Frag	.50
35			Frag	.25
36			Frag	.50
37			Frag	.25
38			Frag	.25
39			M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister	.25
40	27		M49 60mm Mortar Fins/Frag	1.00
41			Frag	.25

Grid E10S				
EM-61 Green	**GEM-3 Orange**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
42			Frag	.75
43			Frag	.25
44			Frag	.25
45			Frag	.25
46			Frag	.75
47			Frag	1.00
48			M49 60mm Mortar Fins/Frag	2.00
49			Survey Nail	.25
50			M84 105mm Projectile Base Plate	.25
51			Frag	.25
52			Frag	.50
53			Frag	.75
54			Frag	1.00
55			Frag	1.00
56			Frag	.75
57			Frag	2.00
58			Expended Mortar M48 Fuze/Frag	.25
59			Frag	2.00
60			Frag	.50
61	16		M49 60mm Mortar Fins/Frag	1.50
62			Frag	.50
63			Frag	.25
64			Expended Mortar M48 Fuze/Frag	2.00
65			Frag	.25
66			Survey Nail	.50
67	39		Frag	1.00
68			Frag	1.00
69			Frag	1.00
70			M84 105mm Projectile smoke expended	3.00
71			Frag	1.00
72	34		Frag	.25
73			Frag	.25
74			Frag	1.00
75			Frag	1.00
76	30		M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister/Frag	.50
77			Frag	1.00
78			M49 60mm Mortar Fins/Frag	.00
79			Frag	.25
80			M49 60mm Mortar Fins/Frag	.50
81			Frag	1.00
82			Frag	1.00
83			M49 60mm Mortar Fins/Frag	.25

Grid E10S				
EM-61 Green	**GEM-3 Orange**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
84			Frag	.25
85			Frag	.25
86			Frag	.25
	2		Frag	1.00
	3		Frag	.25
	4		Frag	.00
	5		Frag	1.50
	6		Frag	.50
	7		Frag	.25
	8		Expended Mortar M48 Fuze/Frag	.25
	9		Frag	.25
	10		Frag	.50
	11		M84 105mm Projectile Base Plate	.25
	12		Frag	.25
	13		Expended Mortar M48 Fuze/Frag	.25
	14		Frag	.50
	15		Frag	.25
	17		Frag	.25
	18		Frag	.50
	19		Frag	1.00
	20		Frag	1.00
	21		Frag	.50
	22		M49 60mm Mortar Fins/Frag	.00
	23		Frag	.25
	24		Frag	.25
	25		Frag	.25
	26		Frag	1.00
	28		Frag	3.50
	29		M49 60mm Mortar Fins/Frag	.50
	31		M84 105mm Projectile Base Plate	.25
	33		Frag	.25
	35		Frag	.25
	36		Frag	.75
	37		Frag	.25
	38		M49 60mm Mortar Fins/Frag	.25
	40		Frag	.25
	41		Frag	1.00
	42		Frag	.25
	43		Frag	.00
	44		Frag	1.00
	45		Frag	1.00
	46		Frag	1.50

Grid E10S				
EM-61 Green	**GEM-3 Orange**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	47		Frag	.50
	48		Frag	.25
	49		Expended Mortar M48 Fuze/Frag	.25
	50		Frag	.25
	51		Frag	.50
		1	M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister/Frag	2.75
		2	Frag	1.50
		3	105mm Projectile smoke/M49 60mm Mortar Fins	5.00
		4	M49 60mm Mortar Fins/Frag	.75
		5	Expended Mortar M48 Fuze/Frag	1.00
		6	Expended Mortar M48 Fuze/Frag	1.00
		7	Survey Nail	.00
		8	M84 105mm Projectile Base Plate	.00
		9	Frag	4.00
		10	M84 105mm Projectile Base Plate	.25
		11	M49 60mm Mortar Fins/Frag	.00
		12	Frag	.25
		13	M49 60mm Mortar Fins/Frag	.75
		14	M84 105mm Projectile Base Plate	.25
		15	M49 60mm Mortar Fins/Frag	.25
		16	Frag	.25
		17	Frag	.00
		18	Frag	1.00
		19	Frag	1.00
		20	Frag	.50
		21	M49 60mm Mortar Fins/Frag	.25
		22	Frag	2.00
		23	Frag	.25
		24	Frag	.25
		25	Frag	1.00
		26	Frag	.25
		27	Frag	.25
		28	Frag	.00
		29	Frag	.00
		30	Frag	.50
		31	Frag	.50
		32	Frag	.00
		33	M49 60mm Mortar Fins/Frag	.00
		34	Frag	.00
		35	Frag	.00
		36	Frag	2.00
		37	Frag	1.00

Grid E10S				
EM-61 Green	**GEM-3 Orange**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		38	Frag	.50
		39	Frag	.25
		40	Frag	.50
		41	M49 60mm Mortar Fins/Frag	.75
		42	M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister/Frag	2.00
		43	Frag	.75
		44	Frag	.75
		45	Frag	.50
		46	Frag	.25
		47	Frag	.50
		48	Frag	.00
		49	Frag	.25
		50	Frag	.25
		51	Expended Mortar M48 Fuze/Frag	.75
		52	Frag	.50
		53	Frag	.50
		54	M49 60mm Mortar Fins/Frag	.50
		55	M49 60mm Mortar Fins/Frag	.50
		56	Frag	.50
		57	Frag	.25
		58	Frag	.25
		59	Frag	.25
		60	Frag	.75
		61	Frag	.75
		62	Frag	.00
		63	Frag	.25
		64	Frag	.25
		65	Frag	1.50
		66	Frag	.25
		67	Frag	.25
		68	Frag	.50
		69	Frag	1.00
		70	Frag	.25
EM-61		**86**	**TOTAL DEPTH IN FEET**	**126.00**
GEM-3		**51**		
QC		**70**		
TOTAL DIGS		**207**		

Grid F08N				
EM-61 Blue	**GEM-3 Yellow**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
1			Frag	.00
2			Frag	.25
3			Frag	.25
4			Frag	.25
5			Frag	.25
6	50		Frag	.25
7			M49 60mm Mortar Fins	.25
8			Frag	.25
9			Frag	.25
10			Frag	.75
11			Expended Mortar M48 Fuze	.00
12			Expended Mortar M48 Fuze	.25
13			Frag	.25
14			Frag	1.00
15	37		Expended Mortar M48 Fuze	.00
16			Frag	.25
17			Frag	.50
18	19		Expended Mortar M48 Fuze/Frag	.25
19			Frag	.00
20			Frag	.25
21			Frag	.50
22			Frag	.25
23			Frag	.25
24			Frag	.25
25	33		Frag	.00
26	2		Frag	.00
27			Frag	.50
28			Frag	1.00
29			Frag	.25
30			Frag	.25
31			Frag	.25
32			Expended Mortar M48 Fuze/Frag	.75
33			Frag	.75
33			Frag	.25
34			Frag	.25
35			Frag	.00
37			Frag	.25
38			Frag	.25
39			Frag	.25
40			Frag	.25
41			Frag	.25

Grid F08N				
EM-61 Blue	**GEM-3 Yellow**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
42			Frag	.25
43			Frag	.50
44			Frag	.25
45			Frag	.25
46			Frag	.25
47			Frag	.25
48			Frag	.25
49			Frag	.25
50			Frag	.50
51			Frag	.25
52			Frag	.25
53			Frag	.25
54			Expended Mortar M48 Fuze	.25
55			Frag	.25
56			Frag	.50
57			R-Bar	1.00
58			Frag	.50
59	6		Frag	1.00
60			Frag	.25
61			Frag	.00
62			Frag	.00
63			Rock	.25
64			Frag	1.00
65			Frag	.25
66			Frag	1.00
67			Frag	.25
68			Frag	.25
69			Frag	.00
70			Frag	.25
71			Frag	.25
72			Frag	.25
73			Frag	.50
74			Frag	.25
75			Frag	1.00
76			Frag	.00
77			Frag	.25
78			Frag	.25
79			Frag	.25
80			Frag	.25
81			Frag	.25
82			Frag	.25
83			Frag	.00

Grid F08N				
EM-61 Blue	**GEM-3 Yellow**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
84			Frag	.25
85			Frag	.25
86			M84 105mm Projectile smoke expended	2.00
87			Frag	.25
88			Frag	.50
89			Frag	.25
90			Rock	.25
91			Frag	.25
92			Frag	.00
93			Frag	.75
94			Frag	.25
95	13		Frag	.50
96			Frag	.00
97			Expended Mortar M48 Fuze	.00
98			Frag	.50
99			Frag	.25
100			Frag	.25
101			Frag	.25
102			Frag	.25
103			Frag	.25
104			Frag	.50
105			Frag	.25
106			Frag	.25
107			Frag	.00
108			Frag	.50
109			Rock	.25
110			Frag	3.00
111			Frag	.00
112			Frag	1.00
113			Frag	.00
114			Frag	.50
115			Frag	.50
116			Frag	.25
117			Frag	.25
	1		Frag	.25
	3		Frag	.25
	4		Frag	.25
	5		Frag	.25
	7		Frag	.25
	8		Frag	.25
	9		Frag	.25
	10		Frag	.25

Grid F08N				
EM-61 Blue	**GEM-3 Yellow**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	11		Frag	.25
	12		Frag	.25
	14		Frag	.25
	15		Frag	.25
	16		Frag	1.50
	17		Frag	.25
	18		Frag	.25
	20		Frag	1.00
	21		Frag	.00
	22		Frag	.50
	23		Frag	.75
	24		Frag	.00
	25		Frag	.25
	26		Expended Mortar M48 Fuze	.25
	27		Frag	.25
	28		Frag	.50
	29		Frag	.25
	30		Frag	.25
	31		Frag	.75
	32		Frag	.25
	34		Frag	.00
	35		Expended Mortar M48 Fuze	.00
	36		Frag	.25
	38		Frag	.25
	39		Frag	.25
	40		Frag	.25
	41		Frag	.25
	42		Frag	.50
	43		Frag	.25
	44		Frag	.50
	45		Frag	.25
	46		Frag	.25
	47		Frag	.00
	48		Frag	.25
	49		Frag	.25
	51		Frag	1.00
	52		Frag	.25
	53		Frag	.25
	54		Frag	.25
	55		Frag	.25
	56		Frag	.25
	57		Frag	.25

Grid F08N				
EM-61 Blue	**GEM-3 Yellow**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	58		Frag	.00
	59		Frag	.25
	60		Frag	.50
	61		Frag	.25
	62		Frag	.25
	63		Frag	.25
	64		Frag	.25
	65		Frag	.50
	66		Frag	.25
	67		Frag	.25
	68		Frag	.25
	69		Frag	.25
	70		Frag	.25
	71		Frag	.25
		1	Frag	.25
		2	Frag	1.00
		3	Frag	.25
		4	Frag	1.00
		5	Frag	1.00
		6	Frag	.25
		7	Frag	1.00
		8	Frag	.25
		9	Frag	1.00
		10	Frag	1.00
		11	Frag	.50
		12	Frag	.25
		13	Frag	1.00
		14	Frag	1.00
		15	Frag	.50
		16	Frag	1.00
		17	Frag	.25
		18	Frag	.25
		19	Frag	.25
		20	Frag	2.00
		21	M84 105mm Projectile Base Plate	.25
		22	Frag	3.00
		23	M84 105mm Projectile smoke unexpended/Frag	.25
		24	M84 105mm Projectile smoke expended	2.50
		25	Expended Mortar M48 Fuze	1.00
		26	Frag	.50
		27	Frag	1.50
		28	Frag	1.00

Grid F08N				
EM-61 Blue	**GEM-3 Yellow**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		29	Frag	.25
		30	M84 105mm Projectile Base Plate	2.50
		31	Frag	.25
		32	Frag	.50
		33	Frag	1.50
		34	Frag	1.00
		35	Frag	.25
		36	Frag	.50
		37	Frag	.50
		38	Frag	.25
		39	Frag	.25
		40	Frag	2.50
		41	Frag	.00
		42	Frag	.50
		43	Frag	.25
		44	Frag	.25
		45	Frag	2.00
		46	Frag	1.00
		47	Frag	.25
		48	Expended Mortar M48 Fuze	.25
		49	Frag	1.00
		50	Frag	.50
		51	Frag	.25
		52	Frag	1.00
		53	Frag	1.50
		54	Frag	1.00
		55	Frag	.50
		56	Expended Mortar M48 Fuze/Frag	1.00
		57	Frag	1.50
		58	Expended Mortar M48 Fuze/Frag	1.00
		59	Frag	.25
		60	Frag	.75
		61	Frag	.25
		62	Frag	1.50
		63	Frag	1.50
		64	Frag	.50
		65	Frag	.25
		66	Frag	.25
		67	Frag	.25
		68	Frag	.00
		69	Expended Mortar M48 Fuze	.00
		70	Frag	.25

Grid F08N				
EM-61 Blue	**GEM-3 Yellow**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		71	Frag	1.00
		72	Smoke Cart/Frag	1.50
		73	Frag	1.00
		74	Expended Mortar M48 Fuze/Frag	.75
		75	Frag	.25
		76	Frag	.25
EM-61		**117**	**TOTAL DEPTH IN FEET**	**119.25**
GEM-3		**71**		
QC		**76**		
TOTAL DIGS		**264**		

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
1			Frag	.50
2	227		Frag	1.00
3			Frag	.25
4			Frag	.25
5			Frag	.25
6	5		Expended Mortar M48 Fuze/Frag	.25
7			Frag	.25
8	102		Frag	.75
9	130		Frag	.25
10			Frag	.50
11			Frag	.50
12			Frag	.25
13			Frag	.25
14			Frag	.25
15			Frag	.25
16			Frag	.25
17			Frag	.25
18			Frag	.25
19	193		M84 105mm Projectile Base Plate	.25
20			M84 105mm Projectile Base Plate	.25
21			Frag	.25
22			Fuse	.25
23			Frag	.50
24			Frag	.50
25			Frag	.25
26			Frag	.25
27			Expended Mortar M48 Fuze	.00
28			Frag	.00
29			Frag	.25
30			Frag	.25
31			Frag	.25
32			Frag	.25
33			Frag	.25
34			Frag	.25
35	1		Expended Mortar M48 Fuze/Frag	.25
36			Frag	.75
37			Frag	.75
38			Frag	.75
39			Frag	.75
40			Frag	.25
41	144		Frag	.25

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
42	181		Frag	1.50
43			Expended Mortar M48 Fuze	1.00
44			Expended Mortar M48 Fuze	1.00
45			Frag	.25
46			81mm M43 Tail Boom	.50
47			Frag	.25
48			Frag	.25
49			Frag	.25
50			Frag	.25
51			Frag	.25
52			Frag	.25
53			Frag	.25
54			Frag	.25
55			Frag	.25
56			Frag	.25
57			Frag	.25
58			Frag	.25
59	161		Frag	.50
60			Frag	.25
61			Frag	.25
62			Frag	.50
63			Frag	.50
64			Frag	.50
65			Frag	.25
66			Frag	.25
67			Expended Mortar M48 Fuze	.50
68			Frag	.50
69			Frag	.75
70			Frag	.75
71			Frag	.50
72			Frag	.75
73			Frag	.50
74			Frag	.25
75			Frag	.25
76			Frag	.25
77			Frag	.50
78			Expended Mortar M48 Fuze/Frag	.25
79			Frag	.25
80			Frag	.25
81			Frag	.25
82			Frag	.00
83			Frag	.25

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
84			Frag	.25
85			Frag	.25
86			Frag	.50
87			Frag	.50
88	164		Frag	.25
89			Frag	.50
90			Frag	1.00
91			Frag	1.00
92			Frag	.25
93			Frag	.25
94			Frag	.25
95			Frag	.50
96			Frag	.50
97			Frag	.50
98			Frag	.50
99			Frag	.50
100	83		Frag	.50
101			Frag	.50
102			Frag	1.00
103			Frag	.50
104			Frag	.50
105			Frag	.25
106			Frag	.25
107			Frag	.25
108			Frag	1.00
109			Frag	.25
110			Frag	1.00
111			Frag	1.00
112			Frag	.50
	2		Frag	.25
	3		Frag	.25
	4		Frag	.25
	6		Frag	.25
	7		Frag	.25
	8		Frag	.25
	9		Frag	.25
	10		Frag	.25
	11		Frag	.50
	12		Frag	.50
	13		Frag	.75
	14		Frag	.75
	15		Survey Nail	.00

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	16		Frag	.50
	17		Frag	.50
	18		M49 60mm Mortar Fins	.25
	19		Frag	1.00
	20		Frag	1.00
	21		Frag	1.00
	22		Frag	.25
	23		Frag	.25
	24		Frag	.25
	25		Frag	.25
	26		Frag	.25
	27		Frag	.50
	28		Frag	.50
	29		Frag	.50
	30		Frag	.50
	31		Frag	.25
	32		Fuse	.25
	33		Frag	.25
	34		Frag	.25
	35		Fuse	.25
	36		Frag	.25
	37		Frag	.25
	38		Frag	.25
	39		Expended Mortar M48 Fuze	.25
	40		Frag	.25
	41		Frag	.25
	42		Frag	.25
	43		Frag	.25
	44		Frag	.25
	45		Frag	.25
	46		Barbed Wire	.25
	47		Frag	.25
	48		Frag	.25
	49		Frag	.25
	50		Frag	1.00
	51		Frag	.25
	52		Frag	1.00
	53		M84 105mm Projectile Base Plate	.50
	54		Frag	.25
	55		Frag	.25
	56		Frag	.25
	57		M84 105mm Projectile Base Plate	.50

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	58		Frag	.50
	59		Frag	.25
	60		Frag	.25
	61		Expended Mortar M48 Fuze/Frag	.25
	62		Frag	.25
	63		Frag	.25
	64		Frag	.25
	65		Frag	.75
	66		Frag	.75
	67		Frag	.25
	68		Frag	.25
	69		Frag	.25
	70		Frag	.25
	71		Frag	.25
	72		Frag	.25
	73		Frag	.25
	74		Frag	.25
	75		Frag	.25
	76		Frag	1.00
	77		Frag	.25
	78		Frag	1.00
	79		Frag	.25
	80		Frag	.25
	81		Frag	1.00
	82		Frag	1.00
	84		Frag	.25
	85		Expended Mortar M48 Fuze/Frag	1.50
	86		Frag	.25
	87		Frag	.25
	88		Frag	.25
	89		Frag	1.00
	90		Frag	1.00
	91		Expended Mortar M48 Fuze/Frag	.25
	92		Frag	.50
	93		Frag	.50
	94		Frag	.50
	95		Frag	.50
	96		Frag	.50
	97		Frag	.25
	98		Frag	.25
	99		Frag	.25
	100		Frag	.50

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	101		Frag	2.00
	103		Frag	1.00
	104		Frag	.25
	105		Frag	.25
	106		Frag	1.00
	107		Frag	.25
	108		Frag	1.00
	109		Frag	1.00
	110		Frag	.25
	111		Frag	.25
	112		Frag	.50
	113		M49 60mm Mortar Fins	.25
	114		Frag	.25
	115		M49 60mm Mortar Fins	1.00
	116		Frag	.25
	117		Frag	.25
	118		Expended Mortar M48 Fuze	.50
	119		Frag	.75
	120		Expended Mortar M48 Fuze	.00
	121		Frag	.75
	122		Frag	.25
	123		Frag	.25
	124		Frag	.25
	125		Frag	.75
	126		Frag	.25
	127		Expended Mortar M48 Fuze	.50
	128		Frag	.25
	129		Frag	.50
	131		Frag	.00
	132		Frag	1.00
	133		Frag	.50
	134		Frag	.00
	135		Frag	.25
	136		Frag	1.00
	137		Frag	.25
	138		Expended Mortar M48 Fuze/Frag	.00
	139		Frag	.25
	140		Frag	.25
	141		Frag	.25
	142		Frag	1.00
	143		Frag	.25
	145		Expended Mortar M48 Fuze/Frag	.25

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	146		Frag	.25
	147		Frag	.25
	148		Frag	.25
	149		Frag	.25
	150		Frag	.25
	151		Frag	.50
	152		Frag	.00
	153		Frag	.25
	154		Frag	.25
	155		Frag	.25
	156		Frag	.00
	157		Frag	1.00
	158		Frag	.25
	159		Frag	.25
	160		Frag	.25
	162		Frag	.25
	163		Frag	.25
	165		Unexpended M84 Smoke Cannister	.25
	166		Frag	.50
	167		Frag	.25
	168		Frag	.50
	169		Frag	.25
	170		Frag	.00
	171		Frag	.25
	172		Frag	.50
	173		Frag	.25
	174		Frag	.25
	175		Frag	.25
	176		Frag	1.00
	177		Frag	1.00
	178		Frag	.50
	179		Frag	.50
	180		Frag	.25
	182		Frag	.50
	183		Frag	.25
	184		Frag	.25
	185		Frag	.25
	186		Unexpended M84 Smoke Cannisternister	.25
	187		Frag	.25
	188		Frag	.75
	189		Frag	.25
	190		Expended Mortar M48 Fuze/Frag	.25

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	191		Frag	.25
	192		Frag	.25
	194		Frag	.50
	195		Frag	.75
	196		Frag	.25
	197		Frag	.50
	198		Frag	1.50
	199		Frag	.75
	200		Frag	1.00
	201		Frag	.25
	202		Expended Mortar M48 Fuze/Frag	.25
	203		Frag	.25
	204		Frag	.25
	205		Frag	.00
	207		Frag	.75
	208		Frag	.25
	205		Frag	.00
	209		Frag	1.00
	210		Frag	.25
	211		Frag	.25
	212		Frag	.25
	213		Frag	.25
	214		Frag	1.00
	215		Frag	1.00
	216		Frag	.25
	217		M49 60mm Mortar Fins/Frag	.00
	218		Frag	.25
	219		M49 60mm Mortar Fins/Frag	.25
	220		Frag	.25
	221		Frag	.25
	222		Frag	.25
	223		Frag	2.00
	224		Frag	.25
	225		Frag	.75
	226		Frag	.50
	228		Expended Mortar M48 Fuze/Frag	.75
	229		Frag	.25
	230		Frag	.25
	231		Frag	.25
	232		Frag	.50
	233		Frag	.00
	234		Frag	.25

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	235		Frag	.50
	236		Frag	.00
	237		Frag	.25
	238		Frag	.25
	239		Frag	.25
	240		Frag	.50
	241		Frag	1.00
	242		Frag	.25
	243		Frag	.25
	244		Expended Mortar M48 Fuze/Frag	.25
	245		Frag	.25
	246		Frag	.25
	247		Frag	.25
	248		Frag	1.00
	249		Frag	.25
	250		Frag	.25
	251		Frag	.25
	252		Frag	.50
	253		Frag	1.00
	254		Frag	.25
	255		Expended Mortar M48 Fuze/Frag	.25
	256		Frag	.25
	257		Frag	.25
	258		Frag	.25
	259		Frag	.25
	260		Frag	.00
	261		Unexpended M84 Smoke Cannister	.25
		1	Frag	1.50
		2	Frag	1.50
		3	Frag	1.50
		4	Frag	2.00
		5	Expended Mortar M48 Fuze/M49 60mm Mortar Fins	.00
		6	Frag	.75
		7	Frag	1.50
		8	Frag	.75
		9	Frag	1.00
		10	Frag	1.00
		11	Frag	2.50
		12	Frag	1.50
		13	Frag	2.00
		14	M84 105mm Projectile Base Plate	2.50
		15	Frag	2.50

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		16	Frag	2.00
		17	Frag	2.50
		18	Frag	.50
		19	Frag	1.50
		20	Frag	1.00
		21	Frag	.75
		22	M84 105mm Projectile smoke expended	2.50
		23	Frag	.75
		24	Frag	1.50
		25	Frag	1.50
		26	Frag	1.50
		27	M84 105mm Projectile Base Plate	1.00
		28	Frag	1.00
		29	Frag	.50
		30	Frag	1.00
		31	Frag	.50
		32	Frag	1.50
		33	M49 60mm Mortar Fins/Frag	3.00
		34	Frag	.50
		35	Frag	.50
		36	Frag	1.00
		37	Frag	1.00
		38	Frag	1.00
		39	Frag	1.50
		40	Frag	.75
		41	Frag	.25
		42	Frag	1.00
		43	Frag	.75
		44	Frag	1.00
		45	Frag	1.00
		46	Frag	1.50
		47	Frag	2.50
		48	Frag	.25
		49	Frag	.50
		50	Frag	1.00
		51	Frag	1.50
		52	Frag	1.00
		53	Frag	1.00
		54	Frag	.25
		55	Frag	1.00
		56	Frag	.50
		57	Frag	1.00

Grid F09N				
EM-61 Green	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		58	Frag	.75
		59	Frag	.75
		60	Frag	.50
		61	Frag	2.00
		62	Frag	1.50
		63	Frag	.50
		64	Frag	.75
EM-61		**112**	**TOTAL DEPTH IN FEET**	**224.50**
GEM-3		**261**		
QC		**64**		
TOTAL DIGS		**437**		

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
1	1		M84 105mm Projectile Base Plate	.25
2	3		M84 105mm Projectile smoke expended/M49 60mm Mortar Fins/Frag	.50
3			Frag	.25
4			M49 60mm Mortar Fins	.25
5	20		Frag	.25
6			Frag	1.00
7			81mm M43 Tail Boom	.25
8			Frag	3.00
9	5		Frag	.75
10			Frag	.50
11			81mm M43 Tail Boom	.25
12			Frag	.50
13			Frag	.25
14			Expended Mortar M48 Fuze/Frag	.25
15			Frag	.25
16			Frag	.50
17			Frag	.25
18			Frag	.50
19			Frag	.25
20			Frag	.25
21			Frag	.50
22	165		Frag	1.50
23			Frag	1.00
24			Frag	.75
25			Frag	.50
26			Frag	1.00
27			Frag	.75
28			Frag	.50
29			Frag	.25
30			Frag	.25
31			Frag	.25
32			Frag	.00
33			M49 60mm Mortar Fins/Frag	.25
34			Frag	.50
35	19		Frag	1.00
36			Frag	.25
37			Frag	.50
38			Frag	.75
39			Frag	.25
40			M49 60mm Mortar Fins	.50
41			Frag	1.00

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
42			Nail/Frag	.25
43			Frag	1.00
44			Frag	.25
45			Frag	1.00
46	109		Frag	.50
47			Frag	.25
48			Frag	.25
49			Frag	1.00
50			Frag	.25
51			Frag	.00
52			Frag	.50
53	32		Frag	.25
54			Frag	1.00
55			Expended Mortar M48 Fuze/Frag	.50
56	88		Frag	1.00
57			Frag	.25
58			Frag	.25
59			Frag	.25
60			Frag	.25
61	77		Frag	1.00
62			Frag	1.00
63			Frag	.25
64			Frag	.50
65			Frag	.00
66			Frag	.25
67			M49 60mm Mortar Fins/Frag	.50
68			Frag	.25
69			Frag	.25
70			Frag	.25
71			Frag	.25
72			Frag	.25
73	234		M49 60mm Mortar Fins/Frag	2.00
74			Frag	.25
75			Frag	.25
76			M49 60mm Mortar Fins/Frag	.50
77			Frag	.25
78			Frag	.25
79			M49 60mm Mortar Fins/Frag	.00
80			Frag	1.00
81			Expended Mortar M48 Fuze/Frag	.25
82			Frag	1.00
83			Frag	1.50

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
84			Frag	1.75
85			Frag	.00
86			Frag	.50
87			81mm M43 Tail Boom	.25
88			Frag	1.50
89			M84 105mm Projectile Base Plate	.25
90			M49 60mm Mortar Fins/Frag	.50
91			Frag	.25
92			Frag	.25
93			Frag	.25
94			Frag	.50
95	225		Frag	.25
96			Frag	.25
97			Frag	.25
	2		M49 60mm Mortar Fins	.25
	4		81mm M43 Tail Boom	.00
	6		M49 60mm Mortar Fins/Frag	.50
	7		Frag	.25
	8		M49 60mm Mortar Fins	.25
	9		Expended Mortar M48 Fuze/Frag	.25
	10		Expended Mortar M48 Fuze/Frag	.25
	11		Expended Mortar M48 Fuze/Frag	.25
	12		Frag	.50
	13		81mm M43 Tail Boom	.25
	14		Frag	.50
	15		Frag	.50
	16		M84 105mm Projectile Base Plate	.25
	17		Expended Mortar M48 Fuze/Frag/M49 60mm Mortar Fins	.25
	18		81mm M43 Tail Boom	.75
	21		Frag	.25
	22		Frag	.50
	23		Frag	.25
	24		M49 60mm Mortar Fins/Frag	.25
	25		Frag	.25
	26		Frag	.25
	27		Frag	.25
	28		Frag	.25
	29		Expended Mortar M48 Fuze/Frag	1.00
	30		Frag	.25
	31		Frag	.25
	33		Frag	.50
	34		Frag	.25

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	35		Frag	.50
	36		Frag	1.00
	37		M84 105mm Projectile Base Plate	.25
	38		Frag	.25
	39		Frag	.75
	40		Frag	.25
	41		Frag	.25
	42		Frag	.25
	43		Survey Nail	.25
	44		Frag	.25
	45		Frag	1.50
	46		M49 60mm Mortar Fins	.25
	47		Frag	.25
	48		M49 60mm Mortar Fins	.25
	49		Frag	1.00
	50		Frag	.25
	51		Frag	.25
	52		Frag	.50
	53		Frag	.25
	54		Frag	.25
	55		Frag	.50
	56		Frag	.25
	57		Frag	.25
	58		Frag	1.00
	59		M49 60mm Mortar Fins/Frag	.25
	60		M49 60mm Mortar Fins	.25
	61		81mm M43 Tail Boom	.25
	62		Frag	.50
	63		81mm M43 Tail Boom	1.00
	64		Frag	.75
	65		Frag	.25
	66		Frag	.75
	67		Frag	.25
	68		Frag	.25
	69		M49 60mm Mortar Fins/Frag	.25
	70		Frag	1.00
	71		Frag	1.00
	72		Frag	.25
	73		Frag	.25
	74		M49 60mm Mortar Fins/Frag	.50
	75		Frag	.25
	76		Frag	.50

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	78		Frag	.25
	79		Frag	.25
	80		Frag	.25
	81		Frag	.25
	82		Unexpended M84 Smoke Cannister	.25
	83		Frag	.50
	84		Frag	.50
	85		Frag	.25
	86		Frag	.50
	87		Unexpended M84 Smoke Cannister	.25
	89		M49 60mm Mortar Fins/Frag	.25
	90		Frag	.25
	91		Frag	.50
	92		Frag	.50
	93		Expended Mortar M48 Fuze/Frag	1.00
	94		Frag	.25
	95		Frag	.25
	96		Frag	.25
	97		Frag	.25
	98		M49 60mm Mortar Fins/Frag	.25
	99		Frag	1.00
	100		Frag	.25
	101		Frag	.25
	102		Frag	.50
	103		Frag	.50
	104		Frag	.25
	105		Frag	.25
	106		Frag	.25
	107		Frag	.50
	108		Frag	.50
	110		Frag	.25
	111		Frag	.50
	112		Frag	.50
	113		Frag	1.00
	114		Frag	.00
	115		Frag	.25
	116		Frag	.25
	117		M84 105mm Projectile Base Plate	1.00
	118		Frag	.25
	119		Frag	1.00
	120		Expended Mortar M48 Fuze/Frag	.25
	121		Frag	.25

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	122		Frag	.25
	123		Frag	1.50
	124		Frag	1.00
	125		Frag	.25
	126		Frag	.25
	127		Frag	.75
	128		M49 60mm Mortar Fins/Frag	.00
	129		Frag	.25
	130		Rock	.25
	131		Frag	.25
	132		Frag	.25
	133		Frag	.25
	134		Frag	.25
	135		Frag	.00
	136		Frag	2.00
	137		Frag	.00
	138		Frag	.50
	139		M84 105mm Projectile Base Plate	.25
	140		Frag	.25
	141		Frag	.25
	142		Frag	1.00
	143		Frag	.25
	144		Frag	.75
	145		Frag	.50
	146		Frag	.25
	147		Frag	.25
	148		Frag	.50
	149		Frag	.50
	150		M84 105mm Projectile Base Plate	1.00
	151		Frag	.25
	152		Frag	1.00
	153		Frag	.25
	154		Frag	.75
	155		Frag	.75
	156		Frag	.25
	157		Frag	.25
	158		Frag	.25
	159		Frag	.00
	160		Frag	.25
	161		Frag	.25
	162		Frag	.25
	163		Frag	.25

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	164		Frag	.25
	166		Frag	1.00
	167		Frag	.50
	168		Frag	.25
	169		Frag	.50
	170		Frag	.50
	171		Frag	1.00
	172		Frag	1.00
	173		Frag	.25
	174		Frag	.25
	175		Frag	.25
	176		Frag	.25
	177		Frag	.00
	178		Frag	1.50
	179		Frag	1.00
	180		Frag	.25
	181		81mm M43 Tail Boom/Frag	1.00
	182		Frag	.00
	183		Frag	1.00
	184		Frag	.25
	185		Frag	.25
	186		Frag	.00
	187		Frag	1.00
	188		Frag	.25
	189		Frag	.25
	190		Frag	.25
	191		Frag	.25
	192		Frag	.00
	193		Frag	1.50
	194		Frag	.25
	195		Frag	.25
	196		Frag	.25
	197		Frag	.25
	198		Frag	.25
	199		Frag	.25
	200		Frag	.25
	201		Frag	1.50
	202		Frag	.25
	203		81mm M43 Tail Boom/Frag	1.00
	204		Frag	.50
	205		Frag	1.00
	206		Frag	1.00

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
	207		Frag	.25
	208		Frag	.25
	209		Frag	.25
	210		Frag	1.00
	211		Frag	1.00
	212		Expended Mortar M48 Fuze/Frag	.25
	213		Frag	.25
	214		Expended Mortar M48 Fuze/Frag	.25
	215		Frag	.25
	216		Frag	.25
	217		Frag	.25
	218		Frag	.50
	219		Frag	.25
	220		Frag	.50
	221		Frag	.25
	222		Frag	.50
	223		Frag	.50
	224		M84 105mm Projectile Base Plate	.50
	226		Frag	1.00
	227		Frag	.25
	228		Frag	.50
	229		Frag	.25
	230		Frag	.00
	231		Frag	.25
	232		Frag	.25
	233		Frag	.25
	235		Frag	1.00
	236		Frag	.50
	237		Frag	.50
	238		Frag	.50
	239		Frag	.50
	240		M84 105mm Projectile Base Plate	.50
	241		Frag	.25
	242		Frag	.25
	243		Frag	.25
	244		Frag	.25
	245		Frag	.25
	246		Frag	.25
	247		Frag	1.50
		1	M84 105mm Projectile smoke expended x2	4.00
		2	M84 105mm Projectile smoke expended	.50
		3	Frag	.25

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		4	Frag	1.50
		5	Frag	.75
		6	M84 105mm Projectile Base Plate	.50
		7	Frag	.25
		8	Frag	1.00
		9	M84 105mm Projectile Base Plate	.00
		10	Frag	1.00
		11	Frag	1.00
		12	Frag	1.00
		13	Frag	4.00
		14	81mm M43 Tail Boom	1.00
		15	Frag	1.50
		16	Frag	1.00
		17	Frag	1.50
		18	Frag	.25
		19	Frag	1.00
		20	Frag	.25
		21	Frag	1.00
		22	Frag	1.00
		23	Frag	.25
		24	Frag	.50
		25	Frag	.50
		26	Frag	1.50
		27	Frag	1.00
		28	Frag	2.50
		29	Frag	.25
		30	Frag	.75
		31	M84 105mm Expended Projectile/Unexpended M84 Smoke Cannister/Frag	.50
		32	Frag	1.00
		33	Frag	.25
		34	Frag	1.50
		35	Frag	1.00
		36	Frag	1.00
		37	Frag	1.00
		38	M84 105mm Projectile smoke exp	4.00
		39	Frag	.50
		40	Frag	1.00
		41	Frag	.25
		42	Frag	.50
		43	Frag	.25
		44	Frag	.50
		45	Frag	.25

Grid F09S				
EM-61 Yellow	**GEM-3 Red**	**QC/EM-61**	**ITEM**	**DEPTH IN FEET**
		46	M49 60mm Mortar Fins/Frag	1.00
		47	Frag	.25
		48	Frag	.50
		49	Frag	2.00
		50	Frag	.50
		51	Frag	2.00
		52	Frag	.75
		53	Frag	2.00
		54	Survey Nail	.25
		55	Frag	.00
		56	Frag	.25
		57	Frag	.25
		58	Frag	.25
		59	Frag	1.00
		60	Frag	.25
		61	Frag	1.00
		62	Frag	.25
		63	Frag	1.00
		64	Frag	.25
		65	Frag	.50
		66	M49 60mm Mortar Fins/Frag	.25
		67	Frag	1.00
		68	Frag	.50
EM-61		**97**	**TOTAL DEPTH IN FEET**	**213.50**
GEM-3		**247**		
QC		**68**		
TOTAL DIGS		**412**		

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX D3

REACQUISITION FIELD NOTES

Zapata Engineering
Grid 1 Camp Croft
South Carolina
EM-61 Bottom Coil

Date of Survey: November 30, 2001

Target Pick Table (EM-61)

Targets	X	Y	Millivolt Response	Offset	Reacquired Response (mV)
74	12	0	8.9658709	1' N	13
3	36	0	36	1.5 SW	37
51	23.6462	14.051	18.083792	0	27
44	34.6281	19.505	19.330113	0	26
1	2.55006	22.508	46.136564	2 SW	44
12	18	28	29.48604	2 SE	31
7	24	30	32.408897	0	33
36	36	30	20.925203	2 E	23
11	20	32	29.60453	0	44
21	6	35	25.595728	0	35
43	12	35.714	19.811426	1 E	28
31	24	37.821	22.752065	0	30
39	28.5454	38.41	20.558136	0	27
6	6	40	32.955879	1.5 NE	44
35	24	44.672	21.022252	0	31
18	17	48	26.995647	0	27
69	41	51	10.426685	2 NE	22
27	84	52	23.646849	1 E	31
54	6	53	17.328594	0	22
2	98	55	40.131203	0	53
28	78	56	23.393639	0	34
34	61	57	21.186052	0	24
53	33	57.237	17.367758	1.5 S	22
41	39	58	20.402317	1 S	24
14	69	58	28.703066	1.5 NE	35
15	95.4869	60.468	28.177668	0	40
50	102	60.597	18.103464	0	28
10	75	61	30.0376	1 E	34
5	82.0461	62.78	33.943543	0	50
19	9	63	26.822056	0	41
55	57	63.514	16.549165	0	25
9	69.7153	63.624	30.656234	0	47
46	33	64	19.076625	0	27
13	90	64	29.131159	0	28
8	0	64.474	30.75	1 W	32
26	96	65	23.976091		

Prepared by NAEVA Geophysics Inc.

Page 1 of 3

Zapata Engineering
Grid 1 Camp Croft
South Carolina
EM-61 Bottom Coil
Date of Survey: November 30, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response	Offset (Ft)	Reacquired Response (mV)	
	48	8	66	18.316616		29	
	25	51	68	24.514015	0	32	
	22	78	68	25.305523	0	31	
65	38	101.912	68.087	20.58832	1 W	27	
	52	57	69	17.651884	.5 S	30	
	42	13	70	19.817669	1 E	22	
	37	19	70	20.716417	0	26	
	4	30	70	34.479061	2 E	62	
	23	69	72	21.871164	1 SW	28	
	40	85.378	72.014	10.423799	0	23	
	29	71	73	23.257	.5 E	31	
	57	93	74	14.185808	.5 E	25	
75	16	48	77	28.1581	0	38	
	45	83	77	19.19384	.5 E	35	
	73	36	78	8.9719238	1 E	8	
	17	63	78	27.989668	2.5 NE	32	
	20	101.98	79.682	26.148141	0	27	
	66	30	81	10.694746	.5 0	13	
	24	96	81	24.798651	0	43	
	62	75	82	12.232068	1 W	19	
	64	54	83	10.984018	0	12	
85	69	36	86	10.156524	1 S	19	
	30	100	87	23.15386	1. SE	21	
	67	69	87.867	10.606771	0	16	
	47	60.2774	88.566	18.789181	1.5 S	28	
	75	7.47581	88.885	7.225786	2 SW	10	
	72	75	91	9.6729841	0	17	
	71	81	91	9.8590631	0	14	
	56	91.7482	91.555	15.888143	1 SE	25	
	76	1	93	6.9359622	0	8	
	70	67	94	10.080615	2 E	11	
95	49	99	94	18.188707	.5 NW	23	
	58	59.6321	94.303	12.919511	0	24	
	33	33	96	21.908913	0	30	
	32	15	98	21.966588	1 E	40	
	60	42	98	12.712121	0	26	
	63	51	99	11.422227	1 E	17	

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Zapata Engineering
Grid 1 Camp Croft
South Carolina
EM-61 Bottom Coil

Date of Survey: November 30, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response			
	65	69	99	10.903898	0	22	
	61	3.00197	107	12.254698	0	26	
	69	15	107	12.87218	0	14	

Prepared by NAEVA Geophysics Inc.

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Zapata Engineering
Grid 2 Camp Croft
South Carolina
EM-61 Bottom Coil

Date of Survey: November 30, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response	Offset	Reacquired Response (mV)	
	36	152	50	15.702557	1.5 N	17	
	59	195	50	10.353505	0	12	
	11	112.6	50.03	24.171619	3 N	28	
	43	168.36	50.054	15.220397	0	19	
	37	105	51	15.623193	1.5 NW	17	
	41	185	52	15.495528	0	23	
55	8	138	53	25.158569	1.5 NW	32	
	51	177	54	12.976833	0	23	
	33	116.29	54.474	17.435875	0	25	
	47	144	55	14.343131	1.5 N	17	
	50	171	55	13.547252	0	23	
	64	196.52	56.281	6.733131	1 NE	18	
	42	132	57	15.305586	0	23	
	38	156	57	15.619936	1 NE	26	
	35	178.6	58.998	15.803456	2 NE	19	
	18	104	59	21.432554	2 E	45	
1	52	164	61	12.606212	0	19	
	63	205	61	7.3458843	0	15	
	15	114	62	22.193745	1 NE	30	
	4	141	62	27.102972	1.5 NE	60	
	19	150	63	20.890865	0	26	
	25	128	64	18.55418	0	24	
15	21	178	64	20.138073	0	27	
	40	185	66	15.496556	0	19	
	58	207	66.216	10.427889	0.5 NE	17	
	29	195	67	17.833973	0	29	
	16	102	67.105	22.040897	2.5 E	32	
	14	117	68	22.398678	0	31	
	26	159	69	18.445127	.5 W	26	
	30	167	69	17.781687	2 E	30	
	3	137.47	69.546	27.32607	3 E	34	
1	34	207	72.297	17.101978	0	24	
	49	175.01	72.648	13.647439	2 SW	22	
75	48	195	73	14.292068	0	22	
	2	123	74	28.118816	0	38	

Prepared by NAEVA Geophysics Inc.

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Zapata Engineering
Grid 2 Camp Croft
South Carolina
EM-61 Bottom Coil
Date of Survey: November 30, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response			
	9	157	74	24.989603	0	30	
	23	168	74	19.431206	0	23	
75	10	134.6	74.029	24.812182	0	30	
	12	107	75	23.658491	.5 NE	26	
	20	144	75	20.490255	2 E	23	
	56	183	76	10.991552	0	15	
	60	188	76	10.244617	0	19	
→	5	101.97	78.774	26.431972	2.5 E	31	
	53	153	80	11.702538	0	20	
	17	133.23	80.448	21.531636	0	26	
	7	114	81	25.489391	0	26	
	28	142	81	18.168013	.5 W	27	
	13	126	82	22.762722	.5 NW	29	
	46	160	83	14.753444	1 NW	19	
	31	169	83	17.763481	0	22	
85	45	102	86	15.037275	4 N	23	
	57	207	86.294	10.76512	0	15	
	54	183.76	86.761	11.677178	0	14	
	6	184	88	25.638443	0	29	
	32	123	89	17.759817	0	22	
	62	129	89	8.4488544	2 N	14	
	44	156	89	15.210443	1 NE	25	
→	1	117	90	30.615696	0	33	
	22	107	93	19.6775	0	20	
	55	189.93	93.883	11.236388	1 E	17	
	27	111	96	18.427334	0	27	
95	61	121	96	9.1910925	0	17	
	24	172.66	96.979	19.297772	1.5 NE	28	
	39	105	101	15.610201	2 E	22	

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Zapata Engineering
Grid 4 Camp Croft
South Carolina
EM-61 Bottom Coil
Date of Survey: December 1, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response	Offset (ft)	Reacquired Response (mV)	
	45	24	0	11.021692	Good	11	
	2	36	0	56.517875	1' SE	90	Same as #3 Grid 6
	29	69	0	15.733057	Good	16	
	54	105	0	9.1691313	Good	20	
5	20	75.7358	0.024	19.355498		22	
	23	12	2	17.910595	1' East	23	
	33	60	2	13.389058	.5N	21	
	62	96	2	7.8098874	1' N	8	
	18	5	4	19.588064	Good	23	
	56	23	5	8.9698744	Circle NE	11	
	14	83	8	21.712484	2' E	25	
	43	90	8	11.308983	1.5 S	16	
	64	32.964	10.735	7.0527021	.5' E	8	
	66	21	11	6.5879588	1' N	8	
	47	64	11	10.299311	1' SE	9	
	19	105	11.184	19.545351	1' E	35	
15	3	80	14	43.90658	.5W	45	
	28	94.5467	14.704	16.135226	1' NW		
	57	31	16	8.7060194	Good	12	
	8	54	17	26.176992	Good	50	
	30	3	19	15.449214	Good	20	
	5	90	20	34.727055	.5N	47	
	7	66	21	31.023308	.5' NE	50	
	68	12	23	6.1753426	Good	10	
	52	49	24	9.7752514	1.5' E	13	
	25	102	25	17.787111	Good	22	
25	58	19	26	8.5995083	1' NW	11	
	16	81	26	20.884795	1.5W	30	
	35	93	27	13.26791	1Ft N	13	
	39	6	29	12.042305	1 Ft N	18	
	50	26	29	9.872035	Good	11	
	36	96	29	12.90182	.5 E	11	
	38	39	30	12.448025	Good	21	
	34	63	30	13.387233	Good	15	
35	32	57	32	13.842042	2' South	17	
	40	102	33	11.977905	Good	12	

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Zapata Engineering
Grid 4 Camp Croft
South Carolina
EM-61 Bottom Coil
Date of Survey: December 1, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response	Mark	Real Response	
	31	45	34	14.254474	1' East	29	
	10	74	34	25.585289	Good	37	
35	12	20	35	23.407709	.5Ft NW	37	
	37	89	36	12.806554	Good	17	
	49	30	37	10.177387	1' NW	14	
	60	104	39	8.4179249	1' NE	12	
	46	62	40	10.693932	1' SE	16	
	26	86	40	17.685959	1.5 NW	25	
	15	3	41	21.225519	1Ft SE	21	
	44	43	41	11.208496	Good	14	
	11	13	42	24.163837	Good	27	
	6	25	42	32.720432	1' SE	36	
	53	75	42	9.5364218	1' SE	10	
45	8	84	43	25.877796	Good	39	Hockey Puck
	41	69	44	11.877083	1' SE	24	
	13	6	45	22.221333	1Ft N	35	
	4	36	45	36.705765	1.5 S	36	
	1	18	48	58.270664	.5 SE	71	
	59	59	48	8.4766293	Good	13	
	67	102	48	6.5305943	.5W	11	
	17	0	48.684	20.225283	.5Ft SW	20	
	27	48.5651	52.856	17.489064	1.5Ft S	32	
55	65	76	56	6.8005304	1.5 SE	11	
	24	32.1923	56.703	17.848552	1' SW	19	
	61	86	58	7.9334946	1.5 S	9	
	21	39	61	19.027843	1.5 SW	28	
	55	78	61	9.1309528	1' N	14	
	22	49.0223	64.938	18.910274	Good	35	
65	42	64	65	11.410808	1' N	14	
	51	72	66	9.8012915	1.5' NW	10	
	48	102	67	10.198099	1' E	21	
	63	87	75	7.6347842	1' E	10	

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Zapata Engineering
Grid 6 Camp Croft
South Carolina
EM-61 Bottom Coil

Date of Survey: December 1, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response	Offset	Reacquired Response (mV)	
	103	48	0	8.89468	0	14	
	31	86	0	27.96026	0	26	
	95	33.697	0.0661	11.937903	0	14	
5	104	62	1	8.872716	.5 SW	11	
	89	9	4	13.02097	0	17	
	100	21	6	9.496232	0	16	
	20	51	7	31.87569	1.6 NW	64	
	98	75	9	10.422931	0	23	
	101	97	9	9.2684031	0	11	
	28	3	11	28.811913	0	48	
	38	10	12	25.465014	.5 S	28	
	6	45	12	45.101693	.5 E	77	
	88	86	12	13.635006	0	32	
	71	105	15.909	18.105643	1.5 SW	26	
15	33	24	16	26.813139	0	31	
	86	72	16	13.868415	0	22	
	26	41	17	29.346201	1 E	41	
	66	9	18.919	18.967207	0	32	
	30	3	19	28.005863	0	42	
	32	19	20	27.910765	0	35	
	35	63	21	26.309017	0	40	
	74	69	21	17.265795	1 S	33	
	79	79	21	16.15094	1.5 W	21	
	8	34	23	43.471962	0	68	
	22	55.578	24.303	30.868089	0	37	
25	41	25	25	24.697674	0	29	
	12	39	25	38.251343	0	45	
	42	64	26	24.802179	0	33	
	72	99	27	17.825649	0	18	
	61	79	28	20.568733	1 W	36	
	37	87	28	25.82205	0	28	
	75	15	32	17.130121	0	35	
	2	36	32	56.906742	0	71	
	10	43	32	41.698936	1 NE	53	
	5	55	32	48.943043	1 S	71	
35	25	6	33	30.08177	0	35	
	1	93	33	60.525139	1 S	68	
	23	104.89	34.99	30.47184	0	45	
	91	21	35	12.472047	0	16	

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Zapata Engineering
Grid 6 Camp Croft
South Carolina
EM-61 Bottom Coil

Date of Survey: December 1, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response		
	14	99	35	36.007927	1 S	47
	16	83	37	33.052818	0	47
35	9	61.501	38.621	42.946543	1 E	44
	44	37.516	39.312	23.309795	0	25
	7	67.059	39.361	44.138538	0	52
	17	60.889	39.655	33.388116	0	40
	59	3	41	20.696764	0	32
	29	79.137	41.872	28.060898	1 W	32
	27	69	43	28.907161	0	32
45	11	52	46	41.433334	1 E	44
	19	62	47	32.229343	0	35
	76	30	48	16.740437	0	36
	94	87	48	12.017157	0	17
	53	95	49	22.064363	0	32
	111	2	50	6.6696043	1 N	7
	64	16	51	19.333836	0	19
	15	105	51.25	35.32408	0	40
	87	27	52	13.765709	0	14
	92	81	55	12.391172	0	19
	67	70.418	55.305	18.934979	0	35
55	62	7	56	20.372866	0	27
	13	56	56	37.499168	0	47
	52	92	56	22.303614	0	30
	55	30	57	21.697254	1 N	28
	84	42	57	14.449044	0	22
	24	99	57	30.22056	0.5 W	35
	40	75	58	25.146912	0	48
	110	12	60	6.6845765	0	12
	107	18	62.162	7.6601754	.5 E	8
	69	24	63	18.769617	0	27
	60	92	63	20.622282	0	28
	73	75	64	17.550489	0	25
	68	99	64	18.815853	1 E	25
65	36	55	65	25.872284	1 N	41
	48	45	65.385	22.951125	0	34
	80	84	66	15.93173	1.5 NW	24
	16	35	67	34.395824	1.5 S	20
	21	72	69	31.037191	0	35
	34	64	70	26.738512	0	29
	50	99	70	22.387672	0	24

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Zapata Engineering
Grid 6 Camp Croft
South Carolina
EM-61 Bottom Coil

Date of Survey: December 1, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response			
	82	4	71	15.512014	0	28	
	4	78	71	49.663845	1 E	69	
	47	88.535	71.325	22.83788	2 NE	35	
	51	52	72	22.304234	0	38	
75	58	84	74	20.86274	0	26	
	57	105	74	21.188375	0	23	
	78	41	76	16.321566	1 E	20	
	39	70	76	25.395741	0	32	
	105	20	78	8.3649702	0	8	
	45	10	79	23.241549	0	31	
	108	28.473	80.883	7.0617403	.5' W	10	
	49	99	81	22.503199	0	25	
	99	73	83	10.221513	1 F	15	
	48	88	83	22.622955	0	37	
85	93	47	85	12.268074	0	20	
	106	63	85	7.7106285	0	14	
	43	93	85	24.040203	1.5 NE	32	
	85	104.95	86.136	13.888779	0	23	
	65	79	87	19.02865	0	27	
	97	53	88	11.005518	1 E	15	
	109	69	90	7.0030975	0	18	
	54	42	94.079	21.802403	0	28	
	70	82.365	94.529	18.390513	0	26	
	90	26	96	12.589481	0	16	
	96	52	96	11.412181	0	17	
95	83	57	96	15.286172	0	17	
	63	18	97	19.824011	0	21	
	102	93	97	9.0108757	0.5 S	14	
	77	67	98	16.567631	1.5 S	21	
	3	36	100	52.855522	1 S	24	
	56	72	100	21.430378	1 S	31	
	81	7.5874	100	15.621802	1 W	25	

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Zapata Engineering
Grid 7 Camp Croft
South Carolina
EM-61 Bottom Coil
Date of Survey: December 5, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response	Offset (Ft)	Reacquired Response (mV)
	\20	9.63971	0.04141	25.126559	1' E	37
5	\98	48	2	7.2318296	2' SW	11
	\88	89.8401	4.83321	10.796218	0	20
	\93	12	5.128	9.8785783	.5' NE	20
	\42	30	7	19.821082	3.5' NE	20
	\99	61	8	6.968698	1' SE	11
	\51	84	12	18.489637	2' E	24
	\19	9	17	25.579865	1' SE	40
	\59	-0.0808	17.0839	16.798639	.5' NE	22
	\91	14	21	10.391384	0	18
	\69	90	23	14.581861	1.5' NW	17
	\77	30	24	13.364756	1' N	20
25	\72	44.0645	24.0606	14.437816	1' NE	20
	\61	3	25	16.631212	1' NE	23
	\84	24	25	11.28161	0	19
	\86	60	28	11.019143	1' W	12
	\26	38	29	23.39982	0	34
	\96	50	29	8.354352	0	12
	\87	66	29	10.802416	1.5' NE	16
	\100	92	31	6.9248066	1.5 NE	8
	\4	20	34	34.724056	0	40
	\40	42	34	20.324202	.5' NE	32
35	\17	0	35	26.87483	0	37
	\18	9	38	27.593718	1.5' E	38
	\11	68.9995	38.6535	31.416819	0	44
	\1	57	40	52.343426	0	70
	\24	41	41	24.134041	0	46
	\2	27	43	39.537807	1' SW	54
	\36	33	43	21.504852	0	30
	\83	79	43	16.199606	0	20
45	\49	6	44	18.584248	0	28
	\95	89	44	8.6733131	0	14
	\23	18	47	24.19178	0	33
	\71	62	47	14.448567	0	22
	\12	24	48	30.203371	1.5' E	37
	\37	36	48	21.449808	0	35
	\32	72	48	21.826183	0	27
	\97	84	51	7.2576175	0	14
55	\83	101.912	51.6993	12.151053	0	24

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Zapata Engineering
Grid 7 Camp Croft
South Carolina
EM-61 Bottom Coil

Date of Survey: December 5, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response			
	\ 7	0	51.875	33.349504	0	42	
	\ 8	8	53	32.57896	.5' E	55	
	\14	16	53	28.12435	0	45	
	\92	77	53	10.210153	0	17	
	\18	61	54	25.781214	0	44	
55	\ 10	27	55	31.438166	0	39	
	\46	37	56	18.89505	0	23	
	\ 9	3	57	32.385784	0	42	
	\13	51	57	29.10257	0	42	
	\81	101.803	57.3801	12.299567	0	14	
	\44	29	59	19.035866	2' W	24	
	\80	72	59	12.528893	0	17	
	\ 62	15	60	16.58963	0	19	
	\ 3	60	60	38.746174	1.5' N	42	
	\48	96	60	18.596666	.5' S	20	
	\ 53	24	61	18.159277	1' N	21	
65	\ 85	77	61	11.067057	0	21	
	\66	13.7373	63.5689	15.011171	2.5' NE	20	
	\ 6	44	65	33.921215	.5' S	35	
	\ 5	57	65.132	34.114177	1' SW	51	
	\45	101.912	68.5233	18.997443	2.5' SW	21	
	\ 55	12	70	17.64168	0	23	
	\33	45	70	21.790798	0	28	
	\39	70.805	70.0365	20.36264	.5' E	20	
	\70	20	71	14.550418	0	27	
	\52	35	71	18.197371	0	34	
	\ 27	3	73	23.374983	0	31	
	\43	63	73	19.572775	0	28	
	\25	69	73.026	23.472419	0	29	
75	\56	9	74	17.272131	0	30	
	\38	57	74	21.289896	0	30	
	\21	96	75	24.528305	0	28	
	\58	26	76	16.969046	0	29	
	\34	34	77	21.707205	0	31	
	\54	45	78	17.789679	0	25	
	\57	39	79	17.051645	0	22	
	\ 50	80	79	18.57032	1' E	29	
	\73	2	80	14.251962	0	27	
	\68	15	80	14.87727	0	27	
	\60	23	80	16.75322	0	27	

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Zapata Engineering
Grid 7 Camp Croft
South Carolina
EM-61 Bottom Coil
Date of Survey: December 5, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response			
	\28	66	80	23.240915	.5' N	34	
	\78	54	83	13.338265	0	28	
	\41	72	83	20.138332	0	28	
85	\30	99	84	22.928764	0	25	
	\35	93	85	21.606848	.5' SE	32	
	\47	25.0847	88.3222	18.835612	0	29	
	\94	12	89	9.7319908	0	17	
	\29	96	89	23.112034	2' W	35	
	\65	34	90	15.702896	.5' W	22	
	\79	42	91	13.04054	0	20	
	\22	72.1166	92.7598	24.332916	1' SE	29	
	\90	83	93	10.423962	1' W	26	
	\31	97	94	22.152302	0	22	
	\82	34	95	12.295078	1' W	13	
95	\75	46	95	13.640067	1' W	15	
	\76	17	96	13.414172	1.5' S	23	
	\15	61	98	27.734516	0	32	
	\64	54	98.026	15.764667	0	26	
	\101	39	99	6.5297608	1' NE	17	
	\89	90	99	10.670083	.5 NW	13	
	\74	21	100	13.776757	0	17	
	\67	80	100	14.912767	1.5' E	24	

Prepared by NAEVA Geophysics Inc.

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Zapata Engineering
Grid 9 Camp Croft
South Carolina
EM-61 Bottom Coil
Date of Survey: December 5, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response	Offset (Ft)	Reacquired Response (mV)	
	7	3	0	16.359739	1' SW	30	
	11	9	0	13.980394	1' S	17	
5	42	51	0	9.4972515	0	10	
	57	17.906	5.3107	7.4537758	0	10	
	3	35	7	26.150494	1.5' S	34	
	16	102	8	13.110097	0	13	
	24	65	10	12.363136	0	12	
	62	12.899	11.772	6.9948539	1' SE	7	
	58	-0.021	15.165	7.4141442	0	7	
	12	60	16	13.891895	1' E	13	
	26	66	16	12.082702	0	12	
20	30	74	16	11.393376	1' NW	11	
	70	6	17.143	6.1634208	1' N	7	
	44	15	18	8.8144979	1' S	18	
	19	11	22	12.863926	1' NE	13	
	1	40	22	28.983869	0	37	
	5	33	23	19.84078	1' N	20	
	10	24	27	14.07959	1' NW	15	
	52	30	28	8.2164698	0	10	
30	22	12	29	12.484938	1' N	13	
	14	81	32	13.448357	.5 W	26	
	60	12	35	7.2655106	.5 E	11	
	37	91.863	39.433	10.588099	2' W	12	
	21	40	40	12.704711	0	14	
	64	72	42	6.8688588	1' NE	7	
45	43	7	46	9.3693247	1' E	11	
	67	49	47	6.5324941	1.5 NW	6	
	45	58	47	8.7891617	0	8	
	68	24	50.656	6.3974731	0	9	
	35	48	53	10.683083	1' SW	12	
	34	65	57	11.082089	1' N	11	
	59	76	61	7.3304462	0	7	
	38	60	62	10.268735	1' SE	9	
60	63	81	63	6.8775177	1' N	8	
	61	54.556	64.149	7.0915129	1' E	8	
	36	2.5067	66.066	10.666456	2' SE	10	
	40	20	67	9.6334429	0	10	
	17	71	67	13.000329	2' N	17	Surface Pick (Frag
75	66	30	69	6.6123056	0	8	

Prepared by NAEVA Geophysics Inc.

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Zapata Engineering
Grid 9 Camp Croft
South Carolina
EM-61 Bottom Coil
Date of Survey: December 5, 2001

Target Pick Table (EM-61)

	Targets	X	Y	Millivolt Response	Offset (ft)	Reacquired Response (mV)	
	2	0	71.795	27.75	0	30	
	56	39	73	7.5634851	0	11	
75	55	13.404	73.277	7.604386	1.5' E	7	
	8	56	76	15.166826	1'S	28	
	20	30	77	12.756412	1' N	14	
	51	67	77	8.3713999	1.5 SE	8	
	49	16	78	8.6044149	0	11	
	53	102	79	8.203824	1' E	8	
	47	22	82	8.6878798	.5'S	11	
	29	86.588	82.558	11.523364	.5	14	
	39	14	83	9.7117281	1' N	10	
	4	59	84	20.58527	.5 NE	23	
	48	82	84	8.6205339	0	9	
85	15	6	86	13.355532	1' NE	17	
	13	72	86	13.871335	1.5'N	7.5	
	18	-0.008	86.022	12.965526	1' W	17	
	50	87	87	8.471839	1' W	10	
	65	24	88	6.7100377	0	7	
	31	9	89	11.278269	0	17	
	32	48	89	11.251806	1.5E	10	
	33	63	89	11.126306	0	10	
	41	15	90	9.5072241	0	10	
	28	39	92	11.600852	.5 NE	10	
	69	69	92.361	6.3546965	1' SE	6	
	25	22.793	93.736	12.164403	2' S	12	
	9	-0.008	93.904	14.298281	.5E	17	
95	54	81	96	7.716291	1' NE	7	
	46	75	98	8.6979408	0	9	
	23	40.75	98.328	12.480331	0	12	
	27	83	99	11.921837	0	14	
	6	11	100	16.497322	0	37	

Prepared by NAEVA Geophysics Inc.

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SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX E

CONDENSED DAILY SENIOR UNEXPLODED ORDNANCE SUPERVISOR (SUXOS) REPORTS

The following Senior Unexploded Ordnance Supervisor (SUXOS) reports have been condensed from their original formats.

18 – 24 March, 2001

- No site work was conducted on Sunday, 18 March.
- ZAPATAENGINEERING subcontractor (HFA) established explosive magazine fencing at two locations near office trailer.
- Explosives magazines were delivered to office trailer location.
- An on-board Work Plan review and revision was conducted on Tuesday, 20 March at Wilson World in Spartanburg, SC.
- Limited brush clearing was conducted on-site on Wednesday, 21 March.
- The AFRL began surface soil removal using the remotely operated D08 bulldozer on Thursday, 22 March and continued bulldozing operations through Saturday, 24 March.

25 – 31 March, 2001

- Daily safety briefings were conducted at 0700, Monday, 26 March through Wednesday, 28 March and on Saturday, 31 March with 100% attendance.
- HFA supported site operations and provided an escort to site personnel during all the week's operations. HFA personnel discovered 33 pounds of OE scrap and 7 M84 105mm smoke rounds (expended) on the ground surface.
- The AFRL conducted bulldozing operations on Monday, 26 March through Wednesday, 28 March and Saturday, 31 March.

01 – 07 April, 2001

- Daily safety briefings were conducted at 0700, Monday, 02 April through Saturday, 07 April with 100% attendance from ZAPATAENGINEERING, HFA (M – Sa) and the AFRL (M – W).
- ZAPATAENGINEERING received approval to conduct intrusive investigations on Thursday, 05 April.
- HFA supported site operations and provided an escort to site personnel during all the week's operations. HFA conducted mag/flag operations in grid E07 on Friday, 06 April and Saturday, 07 April. HFA personnel discovered two M84 105mm smoke rounds (expended) on the ground surface on Saturday, 07 April.
- The AFRL conducted bulldozing operations on Monday, 02 April through Wednesday, 04 April. Wednesday was a partial day as the site personnel left at noon.
- Media day was held on Wednesday, 04 April.

8 – 14 April, 2001

- Daily safety briefings were conducted at 0700, Sunday, 08 April through Saturday, 14 April with 100% attendance from ZAPATAENGINEERING, HFA (Su – Sa) and the AFRL (W, Th).
- HFA supported site operations and provided an escort to site personnel during all the week's operations. HFA conducted mag/flag subsurface removal in grid E07 on Monday, 09 April through Saturday, 14 April. HFA conducted spoil pile investigations on Wednesday, 11 April and Thursday, 12 April. HFA completed 1,141 digs and

removed 665 pounds of scrap, four M84 105mm HC smoke rounds (expended), seven 81mm tail fins, 27 M1 smoke canisters and 15 M48 fuzes.

- The USAESCH received approval to conduct sifting operations on-site on Tuesday, 10 April.
- The AFRL conducted bulldozing and sifting operations and assisted in spoil pile investigations on Wednesday, 11 April and Thursday, 12 April.

15 – 21 April, 2001

- Daily safety briefings were conducted at 0700, Monday, 16 April through Saturday, 21 April with 100% attendance from ZAPATAENGINEERING, HFA (M – Sa) and the AFRL (M – Sa).
- HFA supported site operations and provided an escort to site personnel during all the week's operations. HFA conducted mag/flag subsurface removal in grid E07 on Monday, 16 April, Wednesday, 18 April and Thursday, 19 April. HFA conducted spoil pile investigations on Saturday, 21 April. HFA completed 605 digs and removed 280 pounds of scrap, five M84 105mm HC smoke rounds (expended), one 81mm tail fin, six M1 smoke canisters and 10 M48 fuzes.
- The AFRL conducted bulldozing and sifting operations and assisted in spoil pile investigations on Monday, 16 April through Saturday, 21 April.
- BP Barber and Associates conducted a site survey on Monday, 16 April.

22 – 28 April, 2001

- Daily safety briefings were conducted at 0700, Sunday, 22 April through Saturday, 28 April with 100% attendance from ZAPATAENGINEERING, HFA (M – F) and the AFRL (Su – Sa).
- HFA conducted mag/flag subsurface removal in the ravine on Wednesday, 25 April through Friday, 27 April. HFA supported site operations and provided an escort to site personnel during all the week's operations. HFA conducted spoil pile investigations on Monday, 23 April through Friday, 27 April. HFA completed 1061 digs and removed 255 pounds of scrap, one M84 105mm HC smoke round (expended), two 81mm tail fins, 12 M1 smoke canisters, and six M48 fuzes.
- The AFRL conducted bulldozing and sifting operations and assisted in spoil pile investigations on Sunday, 22 April through Saturday, 28 April. The AFRL did not work on-site on Wednesday, 25 April because of wet site conditions. Two of the AFRL personnel departed the site on Thursday, 26 April with plans of returning to the site on Monday, 30 April.
- ZAPATAENGINEERING subcontractor relocated sifted soil from the bottom of the site to the hilltop, into the southern portion of grid E07.

29 April – 05 May, 2001

- Daily safety briefings were conducted at 0700, Monday, 30 April through Saturday, 05 May with 100% attendance from ZAPATAENGINEERING, Blackhawk (T – Sa), HFA (M - Th) and the AFRL (M - Th).
- Blackhawk personnel conducted a geophysical prove out on Tuesday, 01 May. On Wednesday, 02 May, Blackhawk began geophysical mapping of the site and transmitted

the data to their Golden, Colorado office for processing at the end of each day. Data collection continued through Saturday, 05 May.

- HFA conducted mag/flag subsurface removal in grid E07N and the ravine on Monday, 30 April. HFA supported site operations and provided an escort to site personnel during all the week's operations. HFA conducted spoil pile investigations on Monday, 30 April through Thursday, 03 May. HFA destroyed (BIP) a fuzed 81mm mortar HE in grid F08 on Wednesday, May 02. HFA completed 350 digs and removed 170 pounds of scrap, one 81mm mortar HE, six M84 105mm HC smoke rounds (expended), eight M1 smoke canisters and 16 M48 fuzes.
- The AFRL conducted bulldozing and sifting operations and assisted in spoil pile investigations on Monday, 30 April through Thursday, 03 May. The AFRL personnel departed the site on Thursday, 03 May with plans of returning to the site on Sunday, 06 May.
- BP Barber and Associates personnel conducted a topographic survey of the site on Wednesday, 02 May.

06 – 12 May, 2001

- Daily safety briefings were conducted at 0700, Sunday, 06 May through Thursday, 10 May with 100% attendance from ZAPATAENGINEERING, Blackhawk, HFA (M - Th) and the AFRL (M, T). No work was conducted on-site on Friday, 11 May or Saturday, 12 May.
- Blackhawk personnel completed geophysical mapping of the site on Monday, 07 May and transmitted the data to their Denver office for processing. Blackhawk began anomaly relocation on Tuesday, 08 May and finished relocating 1,318 anomalies in grids D08, D09, E08 southern portion and E09 southern portion on Wednesday, 09 May. Blackhawk personnel demobilized from the site on Thursday, 10 May.
- HFA conducted mag/flag subsurface removal in the ravine on Monday, 07 May and Tuesday, 08 May. HFA conducted spoil pile investigations on Monday, 07 May through Wednesday, 09 May. HFA began intrusive investigation of relocated anomalies in the southern portion of E08 on Wednesday, 09 May. HFA uncovered and destroyed (BIP) a fuzed M49 60mm mortar HE in grid E08 on Thursday, 10 May. HFA completed 283 digs and removed 270 pounds of scrap, one M49 60mm mortar HE, two M84 105mm HC smoke rounds (expended), two M1 smoke canisters, three 81mm tail assemblies and 11 M48 fuzes.
- The AFRL conducted sifting operations and assisted in spoil pile investigations on Monday, 07 May and Tuesday, 08 May. The AFRL personnel departed the site on Tuesday, 08 May with plans of returning to the site on Monday, 28 May.

13 – 19 May, 2001

- Daily safety briefings were conducted at 0700, Monday through Thursday with 100% attendance. HFA completed their 40-hour workweek on Thursday, therefore, there was no work done in the grids Friday through Sunday.
- HFA completed digging flags marked by Blackhawk in E08 (south quarter 50' x 100'), D08 (northern and southern quarters, 100' x 100'), D09 (northern quarter, 50' x 100') and satisfactorily passed QA/QC. Additionally HFA completed digging in D09 (southern

quarter, 50' x 100') and E09 (southern quarter 50' x 100'). QA/QC will not be performed in D09 or E09 until the full half-grid is complete.

- Received current topographical data (maps). Working on a software method to calculate and graphically depict cut areas.
- Temperature in the grids reached 96 degrees (83 WBGT) on Wednesday. All personnel were briefed and 50/50 work/rest cycles were implemented and monitored.

20 – 26 May, 2001

- Daily safety briefings were conducted at 0700, Monday through Wednesday with 100% attendance.
- HFA continued subsurface removal efforts through Wednesday, 23 May. Three HFA employees demobilized from the site on Thursday morning. Three HFA employees spent Thursday securing their equipment and the explosives from the fieldwork and turning in rental vehicles. No work was performed in the grids Friday through Sunday.
- During the week, HFA conducted mag/flag subsurface removal in the northern portion of Grid F07, northwest of the head of the ravine. HFA completed 839 digs and removed 410 pounds of scrap, 13 M84 105mm HC smoke rounds (expended), five M1 smoke canisters and 23 M48 fuzes. QA/QC will not be performed in F07N until the entire half-grid is complete.
- ZAPATAENGINEERING received topographic data and maps from survey conducted on 02 May 2001. ZAPATAENGINEERING compiled topographic survey data collected before site work began and topographic survey data from 02 May, and calculated residual elevations between the two data sets. ZAPATAENGINEERING developed a "cut and fill" site map based on the residual elevations, showing areas of elevation increase and decrease across the site.
- The AFRL researched availability of a larger sifter with a conveyor system. The current sifter will be replaced following the Memorial Day holiday weekend.

27 May – 02 June, 2001

- The AFRL remobilized two operators to the site on Monday, 28 May. Site work began on Tuesday, 29 May.
- Daily safety briefings were conducted at 0700 Tuesday, 29 May through Saturday, 02 June with 100% attendance.
- The AFRL exchanged the CV-90 model sifter with the ST-170 model sifter. The ST-170 model sifter is a larger unit with a tilting topside-surface, terraced finger screens and an attached conveyor system.
- Using the geophysical data and composite topographic maps, ZAPATAENGINEERING flagged areas in grids D09, E07, E08, E09, E10 and F07 for additional surface soil removal.
- During the week, the AFRL continued bulldozing, excavating and sifting operations.
- ZAPATAENGINEERING began tree removal in the southern half of grid E10.

03 – 09 June, 2001

- Daily safety briefings were conducted at 0700 Monday, 04 June through Saturday, 09 June with 100% attendance.

- During the week, the AFRL continued excavating and sifting operations in the "hot-spot" areas marked by ZAPATAENGINEERING.
- Sifting operations uncovered 58 pounds of OE scrap, six expended M84 105mm HC smoke rounds, one M48 fuse and four M1 smoke canisters.
- ZAPATAENGINEERING finished tree removal in the southern half of grid E10.
- Excavating and sifting production rates are high and operations are going well.
- Sifter has been discharging into a dump truck that immediately moves the sifted soil to a storage pile on-site. The sifter processed 31 loads (~500 cu. yds.) of sifted soil.
- Bulldozer was not operational because of mechanical breakdown of the transmission.

10 – 16 June, 2001

- Daily safety briefings were conducted on-site at 0700 hours Sunday, 10 June through Friday, 16 June with 100% attendance.
- During the week, the AFRL moved the sifter to grid E10 and continued excavating and sifting operations in grid E10 and the "hot-spot" areas adjacent to E10 as marked by ZAPATAENGINEERING.
- The AFRL worked to remove stumps from the southern portion of grid E10.
- Sifting operations uncovered 32 pounds of OE scrap, two expended M84 105mm HC smoke rounds, eight M48 fuzes and four 81mm tail fins.
- Excavating and sifting production rates were fairly high when discharging directly into a dump truck until Wednesday, 14 June when the sifter developed mechanical problems. A mechanic was immediately dispatched to the site and attempted to make repairs. Ultimately, the sifter was not properly repaired, however, it was fixed enough for limited use. Sifting continued through Friday, 16 June.
- Bulldozer was not operational because of mechanical breakdown of the transmission.

17 – 23 June, 2001

- Daily safety briefings were conducted on-site at 0700 hours Tuesday, 19 June through Friday, 22 June with 100% attendance.
- No site work was conducted on Monday, 18 June, as AFRL personnel were not on-site.
- USAESCH project manager and safety officer met with the project team on Tuesday, 19 June at 0800 hours. The meeting focused on upcoming fieldwork plans and project personnel work schedules.
- During the week, the AFRL continued excavating and sifting operations in grid E10 and the "hot-spot" areas adjacent to E10 and in grids F08 and F09 as marked by ZAPATAENGINEERING.
- Sifting operations uncovered two pounds of OE scrap.
- ZAPATAENGINEERING scheduled HFA personnel remobilization for Sunday, 24 June.
- During the week, the sifter had several major mechanical failures resulting in approximately 17 hours of lost work time.

24 – 30 June, 2001

- Daily safety briefings were conducted on-site at 0700 hours on Sunday, 24 June and at 0600 hours on Monday, 25 June through Thursday, 28 June with 100% attendance.
- No site work was conducted on Friday, 29 June through Saturday, 30 June.

- On Sunday, 24 June, the AFRL continued excavating and sifting operations in grid E10 and the "hot-spot" areas adjacent to E10 and in grids F08 and F09 as marked by ZAPATAENGINEERING. The remainder of the week was spent disassembling the bulldozer for demobilization from the site. AFRL personnel departed the site on Thursday, 28 June with a return date schedule for 9 July 2001.
- HFA personnel (four persons) remobilized to the site on Sunday, 24 June and began site work on Monday, 25 June. Additional HFA personnel (two persons) mobilized to the site on Wednesday, 27 June and began site work immediately. During the week, HFA located approximately 2,750 anomalies using mag/flag methods, completed 941 subsurface digs, removed 255 pounds of scrap, eight fuzes and one 105mm
- ZAPATAENGINEERING quality control checks passed two half grids (D09S and E08S) for government quality assurance check.
- USAESCH safety officer conducted quality assurance checks on two half grids (D09S and E08S), passing 100%.

01 – 07 July 2001

- Daily safety briefings were conducted on-site at 0600 hours on Monday, 02 July through Wednesday, 04 July with 100% attendance.
- No intrusive site work was conducted on Thursday, 05 July through Saturday, 07 July. The site personnel, in agreement with the USAESCH safety officer, used Thursday as their allowable Independence Day holiday.
- AFRL personnel were fulfilling a scheduled absence from the site this week with an anticipated return date scheduled for 9 July 2001 to demobilize remaining equipment.
- During the week, HFA conducted subsurface removal actions in grids E07N and F07N. Using mag/flag methods, HFA completed 2,059 subsurface digs, removed 615 pounds of scrap, six M84 105mm smoke rounds (expended), one 81mm mortar with 3 ounces of white phosphorus, five M1 smoke canisters and 59 M48 fuzes.
- ZAPATAENGINEERING quality control failed one half grid (E07N) for completeness. After HFA reworked the grid, ZAPATAENGINEERING quality control passed E07N for government quality assurance check.
- USAESCH safety officer conducted a quality assurance check and passed on one half grid (E07N).
- Several commercial landscapers met on-site with Mr. Ed Henson to evaluate tree removal and site restoration alternatives.

08 – 14 July 2001

- Daily safety briefings were conducted on-site at 0600 hours on Monday, 09 July through Thursday, 12 July with 100% attendance.
- AFRL personnel were on-site Thursday 12 July and demobilized remaining equipment.
- During the week, HFA conducted subsurface removal actions in grids F07N and F07S. Using mag/flag methods, HFA completed 2,769 subsurface digs, removed 675 pounds of scrap, 12 M84 105mm smoke rounds (expended) and 65 M48 fuzes.
- ZAPATAENGINEERING quality control passed F07N for government quality assurance check.

- USAESCH safety officer conducted a quality assurance check and passed on one half grid (F07N).

15 – 21 July 2001

- Daily safety briefings were conducted on-site at 0600 hours on Monday, 16 July through Thursday, 19 July with 100% attendance.
- Two additional UXO technicians from HFA, Tom Sheffield and Chris Yonat, arrived on-site Monday, 16 July.
- During the week, HFA conducted subsurface removal actions in grids F07S and E08N. Using mag/flag methods, HFA completed 2,540 subsurface digs, removed 575 pounds of scrap, eight M84 105mm HC smoke rounds (expended), one M60 105mm HC smoke rounds (expended), four M1 smoke canisters and 57 M48 fuzes.
- HFA unearthed and destroyed (BIP) a fuzed 81mm HE mortar in grid F07 on Monday, 16 July.
- ZAPATAENGINEERING quality control passed F07S for government quality assurance check.
- USAESCH safety officer conducted a quality assurance check and passed on one half grid (F07S).

22 – 28 July 2001

- Daily safety briefings were conducted on-site at 0600 hours on Monday, 23 July through Thursday, 26 July with 100% attendance.
- During the week, HFA conducted subsurface removal actions in grid E08N. Using mag/flag methods, HFA completed 2,142 subsurface digs, removed 544 pounds of scrap, 10 M84 105mm HC smoke rounds (expended), eight M1 smoke canisters and 30 M48 fuzes.

29 July – 04 August 2001

- Daily safety briefings were conducted on-site at 0600 hours on Monday, 30 July through Thursday, 02 August with 96% attendance. HFA Team Leader, Tim Hendricks, missed four hours on the morning of 30 July due to a family emergency. Tim received his safety briefing upon arrival to the site.
- During the week, HFA conducted subsurface removal actions in grid E08N and F08S. Using mag/flag methods, HFA completed 2,521 subsurface digs, removed 446 pounds of scrap, 8 M84 105mm HC smoke rounds (expended), 19 M1 smoke canisters, 33 M48 fuzes and 1 M43 81mm HE mortar.
- HFA unearthed and vented (BIP) a fuzed M43 81mm mortar in grid F08 on Wednesday, 01 August.
- ZAPATAENGINEERING quality control passed grid E08N for government quality assurance check on Tuesday, 31 July.
- The USAESCH safety officer conducted a quality assurance check on and passed grid E08N on Tuesday, 31 July.

05 – 11 August 2001

- Daily safety briefings were conducted on-site at 0600 hours on Monday, 06 August through Thursday, 09 August with 100% attendance.
- During the week, HFA conducted subsurface removal actions in grid F08N and F08S. Using mag/flag methods, HFA completed 2,209 subsurface digs, removed 431 pounds of scrap, five M84 105mm HC smoke rounds (expended), 21 M1 smoke canisters, 35 M48 fuzes and one M43 81mm HE mortar.
- HFA unearthed and vented (BIP) a fuzed M43 81mm mortar in grid F08 on Tuesday, 07 August.
- ZAPATAENGINEERING quality control passed grid F08S for government quality assurance check on Thursday, 09 August.
- The USAESCH safety officer conducted a quality assurance check on and passed grid F08S on Thursday, 09 August.

12 – 18 August 2001

- Daily safety briefings were conducted on-site at 0600 hours on Monday, 13 August through Wednesday, 15 August with 100% attendance.
- During the week, HFA conducted subsurface removal actions in grid F08N. Using mag/flag methods, HFA completed 647 subsurface digs, removed 200 pounds of scrap, four M84 105mm HC smoke rounds (expended), five M1 smoke canisters and 10 M48 fuzes.

19 – 25 August 2001

- Daily safety briefings were conducted, Wednesday, 22 August and Friday, 24 August with 100% attendance.
- No work was conducted on Sunday (19 August) through Tuesday (21 August).
- A topographic survey was conducted on Wednesday (22 August) for grids E09, E10, F09 and the areas adjacent to and east of grid E10.
- The project management team met on-site Thursday (23 August) afternoon with the property owner, Dr. Lowery, and the property manager, Mr. Casey, to discuss spoil pile and debris removal at the bottom of the hill. The USAESCH suggested and the team agreed to allow Mr. Casey to remove debris under direct supervision of UXO qualified personnel as construction support and that ZAPATAENGINEERING would provide construction support personnel. USAESCH Safety will remain on-site during construction support operations.
- Mr. Casey began moving clean spoil materials on Friday (24 August) and moved approximately two piles.

26 August – 01 September 2001

- Daily safety briefings were conducted, Monday, 27 August through Thursday 30 August with 100% attendance.
- Mr. Casey continued moving clean spoil materials and separated rock, tree, and stump debris during the week.
- ZAPATAENGINEERING continued construction support.

- ZAPATAENGINEERING personnel discovered three M84 105mm HC smoke rounds, expended and one fuzed 105mm ejection round for a total scrap weight of 50 lbs.
- Mr. Rick Renna disposed of a 105mm ejection round on Wednesday, August 29.
- ZAPATAENGINEERING contacted NAEVA Geophysics and scheduled the geophysical survey for girds E09, E10, F08, and F09.

02 – 08 September 2001

- Labor Day was observed on Monday, 03 September.
- No work was accomplished on Tuesday because of wet weather.
- A daily safety briefing was conducted, Wednesday, 05 September with 100% attendance.
- Minimal work was accomplished Wednesday through Friday because of wet weather.
- Mr. Casey continued moving clean spoil materials and separated tree and stump debris during the week.
- ZAPATAENGINEERING continued construction support.
- ZAPATAENGINEERING coordinated with NAEVA Geophysics and scheduled the geophysical survey for grids E09, E10 and F09.

09 – 15 September 2001

- Daily safety briefings were conducted, Monday, 10 September and Thursday 13 September with 100% attendance.
- Mr. Casey excavated the lower roadway to remove buried wood on 10 September.
- Limited work was accomplished on Tuesday and Wednesday because of wet weather.
- No work was accomplished Friday due to subcontractor commitments.
- Mr. Casey transported approximately 20 truckloads of spoil to the top of the hill.
- ZAPATAENGINEERING continued construction support.
- ZAPATAENGINEERING marked the geophysical survey areas, coordinated with NAEVA Geophysics, and scheduled the geophysical survey for grids E09, E10 and F09.

16 – 22 September 2001

- Daily safety briefings were conducted, Monday, 17 September through Friday 21 September with 100% attendance.
- Mr. Casey continued to excavate around the lower roadway on 17 September. Approximately nine loads of material were moved to the top of the hill.
- ZAPATAENGINEERING continued construction support and escort to NAEVA Geophysics.
- NAEVA performed geophysical surveys with the EM61 and GEM3 in grids E09N, E10N, E10S, F08N, F09N, and F09S. Areas east of the grids where spoil material was previously stockpiled was surveyed with the EM61.

23 – 29 September 2001

- A daily safety briefing was conducted, Thursday, 27 September with 100% attendance.
- Limited work was accomplished on Monday through Wednesday because of wet weather.
- Mr. Casey moved approximately 4,000 cubic yards of material from the bottom of the hill. This completes this portion of contractor support.

- ZAPATAENGINEERING proceeded with temporary site shutdown to minimize additional rental charges.
- ZAPATAENGINEERING received and evaluated raw geophysical data from NAEVA.

11 – 17 November 2001

- Sunday, 11 November – NAEVA's field team and ZAPATAENGINEERING's UXO Safety Officer mobilized to the site to begin EM61 and GEM3 anomaly reacquisition.
- Daily safety briefings were conducted, Monday, 12 November through Saturday 17 November with 100% attendance.
- NAEVA personnel conducted a geophysical prove out and began geophysical reacquisition of selected anomalies on Monday, 12 November. Reacquisition continued through Saturday, 17 November. Reacquisition will continue next week.

18 – 24 November 2001

- Daily safety briefings were conducted, Sunday, 18 November through Tuesday 20 November with 100% attendance.
- NAEVA personnel continued the geophysical anomaly reacquisition on Sunday, 18 November. NAEVA completed generating computer products and dig sheets on Tuesday, November 20. When completed NAEVA and ZAPATAENGINEERING Representative demobilized. NAEVA reacquired a total of 752 EM-61 anomalies and 849 GEM3 anomalies.
- Wednesday, 21 November – No work conducted on-site.
- Thursday, 22 November – Thanksgiving Holiday observed.
- Friday, 23 November and Saturday, 24 November – No work conducted on-site.

25 November – 01 December 2001

- Sunday, 25 November – ZAPATAENGINEERING and USA Environmental Dig teams mobilized to the site.
- The initial safety briefing, site familiarization, and Work Plan review was conducted Monday, 26 November.
- Daily safety briefings were conducted, Monday, 26 November through Saturday 01 December with 100% attendance.
- Monday, 26 November – Completed intrusive operations in F08N (117 EM-61 digs and 71 GEM3 digs). Began intrusive operations in F09N. Began intrusive operations in F09N. Removed 30 lbs. of scrap.
- Tuesday, 27 November – Completed intrusive operations in F09N (112 EM-61 digs and 261 GEM3 digs). Began intrusive operations in F09S. Removed 120 lbs. of scrap.
- Wednesday, 28 November – Completed intrusive operations in F09S (97 EM-61 digs and 247 GEM3 digs). Found one 81-mm HE mortar in F09S. Spartanburg County Sheriff's office destroyed item. Began intrusive operations in E09N. Removed 350 lbs. of scrap.
- Thursday, 29 November – Completed intrusive operations in E09N (170 EM-61 digs and 84 GEM3 digs). Began intrusive operations in E10S. Removed 480 lbs. of scrap.
- Friday, 30 November – NAEVA began collecting geophysical EM-61 QC data over grids F08N, F09N, F09S, and E09N.

- Saturday, 01 December – NAEVA completed EM-61 QC data collection in grids F08N, F09N, F09S, and E09N.

02 – 08 December 2001

- Sunday, 02 December – No work conducted on-site.
- Daily safety briefings were conducted, Monday, 03 December through Saturday 08 December with 100% attendance.
- Monday, 03 December – Completed intrusive operations in grid E10S (86 EM-61 flags and 51 GEM3 flags). Began intrusive operations in E10N.
- Tuesday, 04 December – Completed intrusive operations in grid E10N (170 EM-61 flags and 135 GEM-3 flags). This completes Phase II EM-61 and GEM3 removal operations and the QC intrusive operation began. NAEVA reacquired QC picks in grids F08N (76 items) and F09N (64 items). NAEVA began reacquiring QC anomalies in grids F09S and E09N.
- Wednesday, 05 December – Completed QC intrusive operations in grid F08N (76 EM-61 digs) and on began grid F09N. The GEM3 will not be used during the QC phase. NAEVA began collecting geophysical EM-61 QC data over grids E10N and E10S and continued reacquisition in F09S and E09N.
- Thursday, 06 December – Completed intrusive operations in F09N (64 EM-61 digs). Submitted grid F08N and F09N for QA and passed. NAEVA began reacquiring EM-61 QC anomalies in grid E09N.
- Friday, 07 December – ZAPATAENGINEERING, USA, and NAEVA worked on reacquiring QC anomalies in grids E09N (111 EM-61 flags), E10N (101 EM-61 flags), and E10S (70 EM-61 Flags).
- Saturday, 08 December – ZAPATAENGINEERING began organizing site equipment for demobilization.

09 – 15 December 2001

- Sunday, 09 December – No work was conducted on this date.
- Daily safety briefings were conducted, Monday, 10 December through Thursday 13 December with 100% attendance.
- Monday, 10 December – ZAPATAENGINEERING completed QC intrusive operations in grid F09S (68 EM-61 digs) and began QC intrusive operations in grid E10N.
- Tuesday, 11 December – ZAPATAENGINEERING completed QC intrusive operations in grids E10N (101 EM-61 digs) and E10S (70 EM-61 digs). Began QC intrusive operations in grid E09N.
- Wednesday, 12 December – Completed QC intrusive operations in grid E09N (111 EM-61 digs). Completed QC intrusive operations on the areas to the east of grids E10N, F09N, and F09S (these areas are not subject to QA). Passed government QA on grids E09N, E10N, E10S, and F09S. This completes all intrusive and geophysical actions at this site.
- Thursday, 13 December – ZAPATAENGINEERING began site breakdown and demobilization. Trailer utilities were disconnected. Port-a-John picked up from Red Hill and office site. Telephone and electrical service were turned off. Dumpster was removed from office site. Scrap metal picked up. Schonstedts were returned to vendor. High

value and pilferable items were returned to ZAPATAENGINEERING Charlotte, NC office for storage.

- Friday, 14 December – Remaining field crew demobilized.
- Saturday, 15 December – No work was conducted on this date.

16 – 18 December 2001

- Sunday, 16 December – No work was conducted on this date.
- Monday, 17 December – Safety Kleen personnel arrived on-site and packaged HC canisters for Tuesday's pickup.
- Tuesday, 18 December – Safety Kleen personnel picked up drummed HC canisters. William Scotsman arrived on-site and picked up trailer.

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX F

CEHNC FORM 948

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
HFA / Zapata Eng.	04-09-01	0803

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Cp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☐ Quality Control
- ☒ Other

DESCRIPTION: The UXO Team was 18 minutes late for the safety briefing.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED: Chris Rue
Contractor's Representative

ACTION TAKEN: SUXOS ADMONISHED THE TM LDR TO BE ON TIME AND THINK ABOUT WHAT HE IS SUPPOSED TO DO IN THE MORNINGS. (TEAM WENT STRAIGHT TO WORK SITE AND FORGOT TO STOP BY TRAILER TO PICK UP EM-61)

RR

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	4-19-01	1515

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Camp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: E75.H

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
Zapata Engineering	5-15-01	1430

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Camp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: BERB-E8S.

☐ Prompt correction or compliance with contract specifications is requested.

Robert J. Shumaker
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	5-15-01	1510

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Camp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: D8N.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
Zapata Engineering	5-16-01	0930

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Camp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☒ Quality Control
- ☐ Safety Violation
- ☐ Other
- ☐ Safety Comments

DESCRIPTION: The following grid has passed a quality assurance check: D8S.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 - Contractor's Representative

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
Zapata Engineering	5-16-01	1545

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Camp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: D9N.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 - Contractor's Representative

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
Zapata Engineering	5-17-01	

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Camp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- [X] Work Plan
- [ ] Safety Violation
- [ ] Safety Comments
- [ ] Quality Control
- [X] Other

DESCRIPTION: A delay of 12 minutes (8 x 12) = 96 man-minutes was caused by Zapata Engineering when non-UXO qualified personnel entered the exclusion zone requiring work to be stopped.

- [ ] Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 - Contractor's Representative

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO: Zapata Engineering	DATE: 6-28-01	TIME: 0822

CONTRACT NUMBER: DACA87-00-D-0034
DO #: 0012
PROJECT LOCATION: Camp Croft Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: D9S.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED: Chris Rose
Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO: Zapata Engineering	DATE: 6-28-01	TIME: 1310

CONTRACT NUMBER: DACA87-00-D-0034	PROJECT LOCATION: Camp Croft Spartanburg, SC
DO #: 0012	

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: E95.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED: Chris Rau
Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO: Zapata Engineering	DATE: 07-04-01	TIME: 1505

CONTRACT NUMBER: DACA87-00-D-0034	PROJECT LOCATION: Camp Croft Spartanberg, SC
DO #: 0012	

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: E7N.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) **COPY 1 - Contractor's Representative**

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	07-09-01	1510

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Cp Croft
DO #: ~~0034~~ 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: F7N.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 - Contractor

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
Zapata Engineering	7-17-01	1250

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Cp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: F75.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 - Contractor's Representative

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
ZAPATA ENGINEERING	07/31/01	0915

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Cp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed a quality assurance check: E8N

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED:

Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 - Contractor's [illegible]

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
Zapata Engineering	08-09-01	0944

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Cp Croft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grid has passed 2 quality assurance checks: F8S.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED: Chris Rose
Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 - Cont. Rep. Official File

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
USA Envr / Zapata Engr	12-6-01	1215

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Cp Croft Spartanburg SC
DO #: 0012	

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grids have passed a quality assurance check: F8N, F9N.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED: Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 - Contractor's Representative

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
ORDNANCE AND EXPLOSIVE GROUP
MEMO

TO:	DATE:	TIME:
USA Envir/Zapata Engr	12-12-01	1200

CONTRACT NUMBER:	PROJECT LOCATION:
DACA87-00-D-0034	Cp Craft
DO #: 0012	Spartanburg, SC

SUBJECT ITEM(S) (Check all that apply):

- ☐ Work Plan
- ☐ Safety Violation
- ☐ Safety Comments
- ☒ Quality Control
- ☐ Other

DESCRIPTION: The following grids have passed a quality assurance check: E9N, F9S, E10N, E10S.

☐ Prompt correction or compliance with contract specifications is requested.

USACE Site Representative

RECEIPT ACKNOWLEDGED: Tim Rose
Contractor's Representative

ACTION TAKEN:

CEHNC FORM 948 (Revised) COPY 1 Contractor's R...

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX G

EXPLOSIVES INVENTORY DOCUMENTATION

Aug 15 01 11:25a

MEMO for Record 8/15/01

Subject: Transfer of explosives to Spartanburg Co. Sheriffs Dept.

To: Whom it may concern.

The following explosives were transferred to Rick Renna of the Spartanburg Co. Sheriffs Department. These explosives will be returned contingent upon HFA's re-mobilization to Camp Croft OOU6.

Nomenclature	Lot#	Quantity
Blasting Caps	03mao151	40
Shaped Charges	08-29-00	35
Detonating Cord	26MYOOE9	1970 ft
Boosters	26oc0004	60

R.C. Raesemann
Senior UXO Supervisor

Rick Renna
Spartanburg Co. Sheriffs Dept

Cc: Chris Rose
Ed Henson
Rick Hanoski

EXPLOSIVE CONSUMPTION CERTIFICATE

ZAPATAENGINEERING, P.A.		SITE AND GRID NUMBER
DATE 8/01/01	ISSUE DOCUMENT SERIAL # CROFT BLR 4	CAMP CROFT, RED HILL F-8-8

ITEM #	MANUFACTURE	NOMENCLATURE	LOT NUMBER	QUANTITY CONSUMED
1		CAP, BLASTING, ELECTRIC	03MA0151	2
2		CORD, DETONATING	26MY00E9	6FT
3		PERFORATOR	08-29-00	1

CERTIFYING OFFICIAL

I CERTIFY THAT I SAW THE ABOVE ITEMS CONSUMED DURING DEMOLITION ON (INDICATE DATE)		DATE 8/01/01
NAME (TYPE OR PRINT) R. RAESEMANN	SIGNATURE R Raes	
EMPLOYER HFA	POSITION SUXOS	

MEMO for record

5/25/01

Subject: Transfer of explosives to Spartanburg Co Sheriffs Dept.

To: Whom it may concern

The following explosives were transferred to Rick Renna of the Spartanburg Co. Sheriffs Department. These explosives will be returned contingent upon HFA's re-mobilization to Camp Croft OOU6.

Nomenclature	Lot #	Qty
Blasting caps	03mao151	46
Boosters	27oc0004	60
Shaped charges	08-29-00	38
Det Cord	26MYOOE9	1988 ft

T J Hendrix
Tim Hendrix
Senior UXO Supervisor

Rick Renna
Spartanburg Co. Sheriff Dept

Cc:Chris Rose
Ed Hinson
Rick Hanoski

1. DODIC	2. NSN	3. LOT NO.	4. LOCATION	B	D
UN0042	EX9303255	2700 0004	CRIFT		
5. DESCRIPTION: BOOSTERS			A	C	E

6. DATE	7. DOCUMENT NO	8. ACTION/PURPOSE	A. QUANTITY		10. BALANCE	11. PRINTED NAME
			A. GAIN	A. LOSS		
3/22/01	211620	REC'D	60		60	R. RAESEMANN
3/28/01		INVENT			60	R. RAESEMANN
4/5/01		INVENT			60	J HENDRIX RRAESEMANN
4/12/01		INVENT			60	J HENDRIX RAESEMANN
4/18/01		INVENT			60	J HENDRIX RAESEMANN
4/25/01		INVENT			60	J HENDRIX RAESEMANN
5/2/01		INVENT			60	J HENDRIX RAESEMANN
5/9/01		INVENT			60	J Hendrix RAESEMANN
5/16/01		INVENTORY			60	J HENDRIX
5/23/01		INVENTORY			60	
5/25/01		TRANSFER TO Sheriffs Dept		60	0	

DA FORM 3020-R, AUG 89

1. DODIC	2. NSN	3. Lot No.	4. Location	B	D
UNO 255	FY93O3277	O3MAO151	CROFT		
5. Description: ELECTRIC CAPS ROCK STAR			A	C	E

6. Date	7. Document No	8. Action/Purpose	A. Quantity		10. Balance	11. Printed Name
			A. Gain	A. Loss		
3/22/01	211662-0	REC'D	50		50	RAESEMANN
3/28/01		INVENT			50	M.C. R.RAESEMANN
4/5/01		INVENT			50	J HENDRIX R RAESEMANN
4/12/01		INVENT			50	T HENDRIX RAESEMANN
4/18/01		INVENT			50	T HENDRIX RAESEMANN
4/25/01		INVENT			50	T HENDRIX RAESEMANN
5/2/01		INVENT			50	T HENDRIX RAESEMANN
5/2/01		ISSUE		2	48	T HENDRIX RAESEMANN
5/9/01		INVENT			48	T HENDRIX RAESEMANN
5/10/01		ISSUE		2	46	T HENDRIX RAESEMANN
5/16/01		INVENTORY			46	T HENDRIX
5/23/01		INVENTORY			46	[illegible]
5/25/01		TRANSFER TO SHERIFFS DEPT		46	Ø	[illegible]

DA FORM 3020-R, AUG 89

1. DODIC	2. NSN	3. Lot No.	4. Location	B	D
HN0441	EX 96 08028	08-29-00	CROFT		
5. Description: CHARGES, SHAPED			A	C	E

6. Date	7. Document No	8. Action/Purpose	A. Quantity		10. Balance	11. Printed Name
			A. Gain	A. Loss		
3-26-01	4307G9670463	REC'D	40		40	R RAESEMANN
3/28/01		INVENT	~~4RR~~		40	RRAESEMANN
4/5/01		INVENT			40	T HENDRIX RRAESEMANN
4/12/01		INVENT			40	T HENDRIX RAESEMANN
4/18/01		INVENT			40	T HE RAESEMANN
4/25/01		INVENT			40	T HENDRIX RAESEMANN
5/2/01		INVENT			40	T HENDRIX RAESEMANN
5/2/01		ISSUE		1	39	T HENDRIX RAESEMANN
5/9/01		INVENT			39	RAESEMANN
5/10/01		ISSUE		1	38	RAESEMANN
5/16/01		INVENTORY			38	T HENDRIX
5/23/01		INVENTORY			38	
5/25/01		TRANSFER TO Sheriffs Dept		38	Ø	

DA FORM 3020-R, AUG 89

1. DODIC	2. NSN	3. LOT NO.	4. LOCATION	B	D
UN0065		26MY00E9	CROFT		
5. DESCRIPTION			A	C	E
DET CORD 100 GR					

6. DATE	7. DOCUMENT NO	8. ACTION/PURPOSE	A. QUANTITY		10. BALANCE	11. PRINTED NAME
			A. GAIN	A. LOSS		
3/22/01	2116620	RECD	2000		2000	R RHESEMANN
3/28/01		INVENT			2000	R.RAESEMANN
4/5/01		INVENT			2000	T HENDRIX R.RAESEMANN
4/12/01		INVENT			2000	T HENDRIX R RAESEMANN
4/18/01		INVENT			2000	T HENDRIX RHESEMANN
4/25/01		INVENT			2000	T HENDRIX RAESEMANN
5/2/01		INVENT			2000	T HENDRIX RAESEMANN
5/2/01		ISSUE		6	1994	T HENDRIX RAESEMANN
5/9/01		INVENT			1994	T HENDRIX RAESEMANN
5/10/01		ISSUE ~~INVENTRY~~			1988	T HENDRIX RAESEMANN
5/16/01		INVENTORY			1988	T HENDRIX
5/23/01		INVENTORY			1988	
5/25/01		TRANSFER TO Sheriffs Dept		1988	Ø	

DA FORM 3020-R, AUG 89

SUXOS DAILY JOURNAL

DATE: 15 August 2001	**QC: C. Rose Zapata**
SUXOS: Robert Raesemann	**SS: C. Rose Zapata**
TOTAL GRIDS TODAY: -0-	**TOTAL EXCAVATIONS: 72**
TOTAL GRIDS TO DATE: -11-	**TOTAL OE SCRAP: 45 LBS**
TOTAL UXO'S:	**CLIENT: Zapata Engineering**
FIELD OPERATION TIME: 6 HRS	**GOVMT DELAY TIME: -0- HRS**
WEATHER:	**TEMP: DEGREES F**

GRIDS CLEARED	GRIDS WORKING	TOTAL UXO INERT	TOTAL UXO LIVE	BIP Y/N	TOTAL DIGS	TOTAL NON OE SCRAP LBS	HAZ MAT FOUND Y/N	BKHOE REQ Y/N
	F-8-N	1-105mm	0		72	45	N	N

COMMENTS: Continued intrusive investigation of Grid F-8-N.

In accordance with instructions received from HFA Waldorf, prepared for de-mob.

1120: Transferred explosives to Rick Renna of the Spartanburg Sheriff's Department. Arrow Steel of Spartanburg picked up the OE scrap from the site. One UXO tech escorted the scrap back to Arrow to ensure there were no problems.

1200: Ceased intrusive operations in grid F-8-N, completed 72 digs, recovered one-105mm HC smoke round, M-84(empty), two-M48 fuze bodies and 45 pounds of OE scrap.

All field equipment such as picks, shovels, etc., were placed in storage in the bunker on-site. The vehicles were swept out and returned to Enterprise car rental in Spartanburg (Note: vehicles were not washed)

15 August 01 – page 2 of 2 **CEHNC Representative Bob Bohannon on-site.**
SUXOS SIGNATURE:

Aug 15 01 01:16p p.1

SUXOS DAILY JOURNAL

DATE: 8-15-01	QC: C. ROSE Zapata
SUXOS: Robert Raesemann	SS: C. Rose Zapata
TOTAL GRIDS TODAY: Ø	TOTAL EXCAVATIONS: 72
TOTAL GRIDS TO DATE: 11	TOTAL SCRAP: LBS 45
TOTAL UXO'S:	CLIENT: Zapata Engineering
FIELD OPERATION TIME: HRS 6	GOVMT DELAY TIME: Ø HRS
WEATHER:	TEMP: DEGREES F

GRIDS CLEARED	GRIDS WORKING	TOTAL UXO INERT	TOTAL UXO LIVE	BIP Y/N	TOTAL DIGS	TOTAL SCRAP LBS	HAZ MAT FOUND Y/N	HKHOE REQ Y/N
	F-8-N	1-105mm	Ø		72	45	N	N

COMMENTS:

CEHNC Representative on-site. BOB BOHANNON

SUXOS SIGNATURE:

CONTINUED INTRUSIVE INVESTIGATION OF GRID F-8-N

IAW INSTRUCTIONS RECIEVED FROM HFA WALDORF, PREPARED FOR DEMOB.

1120 — TRANSFERRED EXPLOSIVES TO RICK RENNA OF THE SPARTANBURG SHERIFFS DEPT.

ARROW STEEL OF SPARTANBURG PICKED UP THE OE SCRAP FROM THE SITE; ONE UXO TECH ESCORTED THE SCRAP BACK TO ARROW TO ENSURE THERE WERE NO PROBLEMS.

1 OF 2

Aug 15 01 01:16p p.2

2 of 2

1200 CEASED INTRUSIVE OPERATIONS IN GRID F-8-N COMPLETED 72 DIGS, RECOVERED ONE - 105MM HC SMOKE RDS, M-84 (EMPTY) TWO - M48 FUZE BODIES AND 45 LBS OF OE SCRAP,

ALL FIELD EQUIPMENT SUCH AS PICKS, SHOVELS, ETC, WERE PLACED IN STORAGE IN THE BUNKER ON SITE.

THE VEHICLES WERE SWEPT OUT AND RETURNED TO ENTERPRISE CAR RENTAL IN SPARTANBURG, (NOTE: VEHICLES WERE NOT WASHED)

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX H

SCRAP MANAGEMENT FORMS

Aug-14-01 09:42A HFA WALDORF ALT P.02

CERTIFICATE FOR SCRAP TURN IN

Date: 14 AUG 01

To: ARROW STEEL

Address: 1621 UNION ST
SPARTANBURG, SC
29302

Dear Sir:

In regard to the turn-in of recovered ordnance, ammunition, and explosives related scrap and target related scrap the following applies:

In compliance with the basic contract between HFA, Inc and the U.S. Army Corps of Engineers, Huntsville Division, the following statement is provided.

AI certify that the property listed hereon has been inspected

by me, TIM HENDRIX **of HFA, Inc. the** ~~Site Safety Officer~~ UXO TEAM LEADER,
Printed name of the Site Safety Officer

and by me, R.C. RAESEMANN **of HFA, Inc. the Senior UXO Site**
Printed name of the Senior UXO Supervisor

Supervisor, and to the best of my knowledge and belief, contains no items of a dangerous nature".

SSO: Signature: TJ Hendrix **dated** 8/15/01

SUXOS: Signature: RRae **dated** 14 Aug 01

MEMO for Record **8/15/01**

Subject: Transfer of HC canisters

To: Whom it may concern.

Approximately 500 pounds of Hexachlorathane-Zinc canisters were left on site OOU-6 in the custody of Zapata Engineering personnel. The drum containing the canisters was sealed shut with lead seals.

R. C. Raesemann
Senior UXO Supervisor

Chris Rose
ZAPATAENGINEERING

Cc: Ed Henson
Rick Hanoski

CERTIFICATE FOR SCRAP TURN IN

Date: 15 AUG. 01

To: ARROW STEEL

Address: 1621 UNION ST.
SPARTANBURG, S.C.
29302

Dear Sir:

In regard to the turn-in of recovered ordnance, ammunition, and explosives related scrap and target related scrap the following applies:

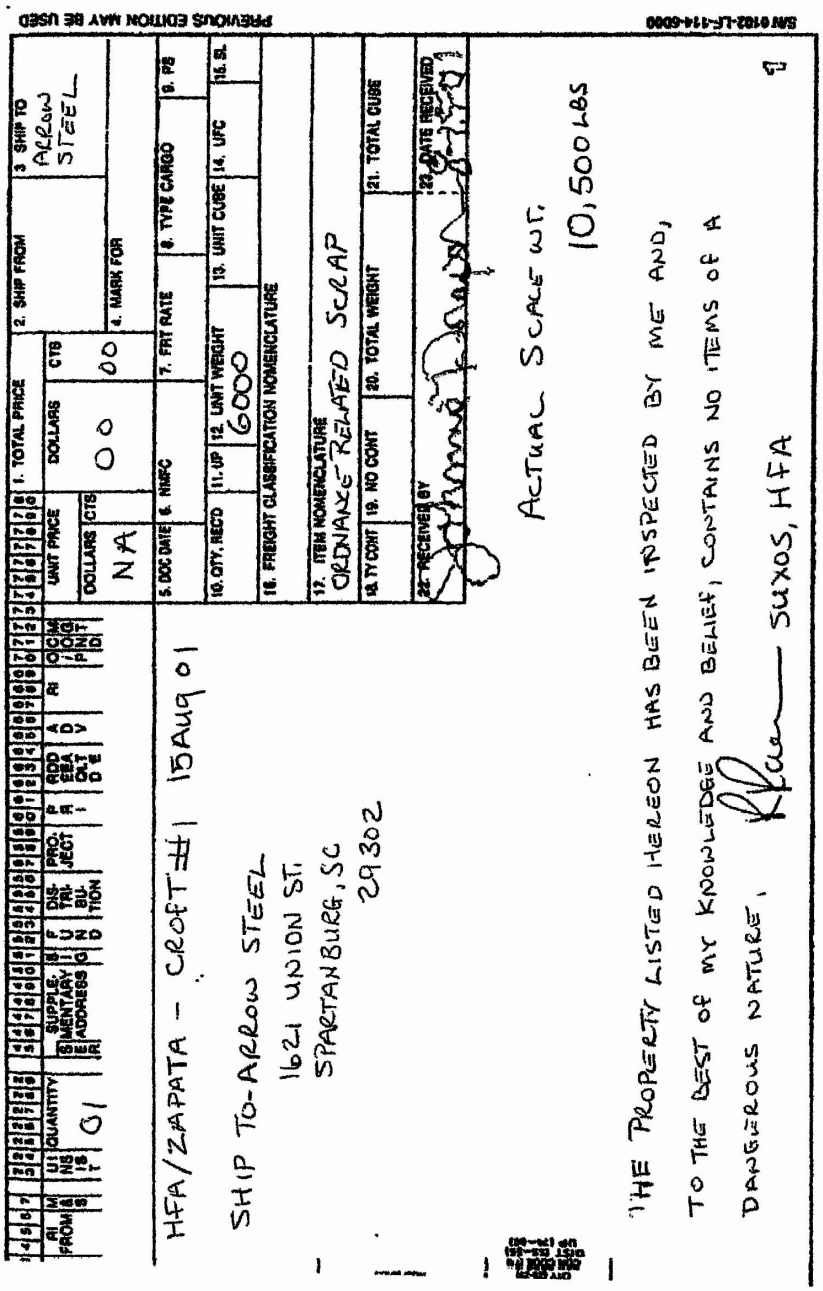
In compliance with the basic contract between HFA, Inc and the U.S. Army Corps of Engineers, Huntsville Division, the following statement is provided.

"I certify that the property listed hereon has been inspected

by me, R. RAESEMANN **of HFA, Inc. the Senior UXO Site**
Printed name of the Senior UXO Supervisor

Supervisor,, and to the best of my knowledge and belief, contains no items of a dangerous nature".

SUXOS: Signature: Robert Raese **dated**


PREVIOUS EDITION MAY BE USED
1. TOTAL PRICE
2. SHIP FROM
3. SHIP TO
ARROW STEEL
DOLLARS
CTS
00
00
4. MARK FOR
UNIT PRICE
DOLLARS
CTS
NA
5. DOC DATE
6. NMFC
7. FRT RATE
8. TYPE CARGO
9. FB
10. QTY. RECD
11. UP
12. UNIT WEIGHT
6000
13. UNIT CUBE
14. UFC
15. SL
16. FREIGHT CLASSIFICATION NOMENCLATURE
17. ITEM NOMENCLATURE
ORDNANCE RELATED SCRAP
18. TY CONT
19. NO CONT
20. TOTAL WEIGHT
21. TOTAL CUBE
22. RECEIVED BY
23. DATE RECEIVED
HFA/ZAPATA - CROFT #1 15AUG01
SHIP TO-ARROW STEEL
1621 UNION ST.
SPARTANBURG, SC
29302
ACTUAL SCALE WT.
10,500 LBS
THE PROPERTY LISTED HEREON HAS BEEN INSPECTED BY ME AND,
TO THE BEST OF MY KNOWLEDGE AND BELIEF, CONTAINS NO ITEMS OF A
DANGEROUS NATURE.
SUNOS, HFA

ZAPATAENGINEERING, P.A.

TRUST • INTEGRITY • QUALITY

To Whom It May Concern:

RE: Scrap Generated from OE Removal at the Former Camp Croft

I certify that the property has been inspected, and to the best of our knowledge and belief, contains no items of a dangerous nature.

12/13/01

Mr. Tim Hendrix — Date
Senior UXO Supervisor

12/13/01

Mr. Cliff Walden — Date
UXO Safety Officer

Aug 7 2002 13:51 P.02

safety-kleen

HAZARDOUS MATERIALS WASTE DISPOSAL

SAFETY-KLEEN (TS), INC.
208 WATLINGTON INDUSTRIAL DR
REIDSVILLE NC 27320-

Mail To: USACE, CAMP CROFT
177 RED HILL ROAD
PACOLET SC 29372

Pickup Address: USACE, CAMP CROFT
177 RED HILL ROAD
PACOLET SC 29372

Attention:

EPA ID: SCR000006288

Manifest No: RVZPE-11218

This is to certify that hazardous material removed from USACE, CAMP CROFT

has been disposed of in accordance with all applicable local, state and federal regulations in the following manner.

Container	Date	Location	Method
011218-RVZPE-001 RVZPE101	01/29/02	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION
011218-RVZPE-002 RVZPE101	01/29/02	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION

CHMSW

Operations

Date: 08/07/02

safety-kleen

HAZARDOUS MATERIALS WASTE DISPOSAL

SAFETY-KLEEN (TS), INC.
208 WATLINGTON INDUSTRIAL DR
REIDSVILLE NC 27320-

Mail To: HUMAN FACTORS APPLICATION, INC
10 WEST 35TH STREET
CHICAGO IL 60616-3799
Attention:

Pickup Address: USACE, CHARLESTON DISTRICT
FORMER CAMP CRAFT
177 RED HILL ROAD
PACOLET SC 29372

EPA ID: SCR000006288

Manifest No: RVYKY-11128

This is to certify that hazardous material removed from USACE, CHARLESTON DISTRICT FORMER CAMP CRAFT

has been disposed of in accordance with all applicable local, state and federal regulations in the following manner.

Container	Date	Location	Method
011128-RVYKY-001 RVYKY101	12/21/01	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION
011128-RVYKY-002 RVYKY101	12/21/01	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION
011128-RVYKY-003 RVYKY101	12/21/01	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION
011128-RVYKY-004 RVYKY101	12/21/01	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION
011128-RVYKY-005 RVYKY101	12/21/01	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION
011128-RVYKY-006 RVYKY101	12/21/01	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION
011128-RVYKY-007 RVYKY101	12/21/01	SAFETY-KLEEN (DEERPARK)INC. DEER PARK TX	INCINERATION

Operations

Date: 08/05/02

SITE SPECIFIC FINAL REPORT

FORMER CAMP CROFT ARMY TRAINING FACILITY
SPARTANBURG COUNTY, SPARTANBURG, SOUTH CAROLINA

APPENDIX I

COST SUMMARY

DID OE-030.01

	Contract No: DACA87-00-D-0034 Task Order No: 0001; Task 6 Prepared By: ZAPATAENGINEERING, P.A.		Location: Former Camp Croft Spartanburg, SC Project: OOU6 Removal Action			
			Labor Hours			
SERV/CLIN	LABOR CATEGORY	LABOR RATE	Subtask 2 - Field Work	Subtask 3 - Video	TOTAL HOURS	TOTAL COST
0008AF	Community Relations Specialist	$60.17	2.00		2.00	$120.34
	Contract Manager	$79.52	159.50	0.75	160.25	$12,743.08
	Drafter	$37.27	9.00		9.00	$335.43
	Engineering Technician	$37.20	6.00	0.75	6.75	$251.10
	Geologist	$66.05	599.25	36.25	635.50	$41,974.78
	Project Manager	$84.22	356.00	3.00	359.00	$30,234.98
	Programmer	$56.76	3.50		3.50	$198.66
	Program Manager	$95.14	237.75	33.00	270.75	$25,759.16
	Sr. Professional Engineer	$81.35	57.00	1.50	58.50	$4,758.98
	Staff Engineer	$62.04	0.50		0.50	$31.02
	Word Processor	$35.47	12.50	1.75	14.25	$505.45
	OE QC	$45.53	2628.25	5.00	2633.25	$119,891.87
	LABOR TOTAL				4153.25	$236,804.84
	SUBCONTRACTOR		$733,201.78	$18,928.31		$752,130.09
	OTHER DIRECT COSTS		$24,375.57	$222.70		$24,598.27
	TRAVEL		$59,238.70	$92.47		$59,331.17
TOTAL COST						$1,072,864.37